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John Wilson's.

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THE
WEAVER'S COMPANION.

IN TWO PARTS.

PART I.

Containing a New and Correct Set of TABLES, adapted for the Use of *Weavers*.

PART II.

The Art of Weaving by the Sliding Rule; or a True and Exact Method of Counting by that Rule.

By JAMES MALLOCH,
WEAVER IN PERTH.

*Weaving's an old and useful Art,
And this contains its chiefest Part.*

P E R T H:
PRINTED BY R. MORISON, JUNIOR,
M,DCC,LXXXV.

WEAVER'S COMPANION.

IN TWO PARTS.

PART I.

Containing a New and Correct Set of Tables adapted for the Use of Weavers.

Entered in Stationers Hall,
According to Act of Parliament.

by that Rule.

By JAMES MILLLOCH,

WEAVER IN FIFTH.



Wearing's on old and new Part.

P E R T M

PRINTED BY R. MORISON, JUNIOR,

MDCCLXXV.

P R E F A C E.

WEAIVING needs no more to recommend it to the world, but only its usefulness, which is well known to the generality of mankind: so there need none despise Weavers, nor their Work, for none that wear clothes can want it.

Weaving is an ancient Art, and has undergone many improvements, in order to bring it towards a state of perfection, a state which it will never arrive at. There has been several books published for the help of Weavers, but I can venture to say that this (although it be but a mean performance) is the compleatest one that has ever yet been published.

This Book is divided into two Parts; the First Part thereof contains a New and Correct Sett of Tables adapted for the use of Weavers. The First Table shews how much Yarn it will take to Warp any Web. In calculating a Table of this kind, others have reckoned a Hank, or six Heers, to give seventy-two Warp; which it will not give: for it commonly gives only seventy Warp, or fourteen Hundred; and there are four reasons for it giving only seventy Warp. 1st. The length of the Warping-Mills, for they are commonly longer than they ought to be; but I shall not determine the particular length of them, because they are not all equal; but for each Yard in Cloth, there ought to be only one Yard and a Quarter, or forty-five Inches in Yarn allowed; which is half the length of the Reel, as it is established in this nation. 2d. The Yarn grows shorter after it is taken off the Reel, and also in the boiling, if it be boiled. 3d. The loss of Yarn, which is sometimes more, sometimes less, according to the quality thereof; so if the Yarn be good, it will give the more Warp, and if it be bad it will give the less. 4th. The false counting of Yarn, for if it want any of its number, that is sure to make it give little Warp.

In calculating this Table, I have made seventy the Standard, and not seventy-two, as others have done. Those men that made seventy-two their Standard, took an easier method to calculate Tables than I have done; but their Tables do not answer the purpose for which

they were intended: I only say the truth of other men's works, I do not despise them; for no doubt others were wiser than I am; they surely were wise enough to know the way that was easiest for them to calculate Tables; for it is easier to calculate a Table, making seventy-two the Standard, than to make seventy the Standard, (as those that try it shall find) for reckoning a Hank to give seventy-two Warp, it takes exactly one score to give one Warp; but, reckoning a Hank to give only seventy Warp, it will take one score, and four seventh-parts of a Thread to give one Warp; and so of the rest.

The Second Table shews how much Warp any number of Heers, or Cuts, of a ten, eleven, or twelve-quarter Reel will give to one Yard. In ancient times the eleven, and twelve-quarter Reels were much used; but now they are seldom made use of, and are rare to be found, because they are not allowable; for the ten-quarter Reel only, is established. This Table is not inserted in this Book, to encourage the eleven, or twelve-quarter Reels, but only to shew (when occasion requires) how much Warp any number of Heers, or Cuts, of these Reels will give.

The Third Table shews how much Yarn is in a pound, when a Spyndle is any certain Weight. There are some that weigh Yarn in Spyndles, and some that weigh it in Hanks; but in this Table it is the Weight of the Spyndle that is counted: so if you weigh it in Hanks, you must allow only a fourth-part of the Weight of the Spyndle.

The Fourth Table shews how to Sett, or Caam several kinds of Cloth. It is not designed for an invariable Rule, but only for a help to those who have no experience of the Setting of Cloth. There are surely none so foolish, as to imagine, that I could make a Table of this kind, so as to please every Manufacturer; but I have made it, that every Sett, from the coarsest to the finest, will be in proportion to one another; but, there are some that think coarse Setts too throng, if they be in proportion to the fine; others think that they are not too throng; for men's judgments are very different: so if any think the coarse Setts too throng, they may make them a little lighter than the Table directs.

The Fifth Table shews how much Warp any number
of

P-R-E-F-A-C-E

of Bouts, or Gangs will give, run with any number of Runners. There are some that count the Warp of a Web only by Warps, and Threads; but in this Table it is counted by Hundreds, Warps, and Threads; which is a plainer method, and easier understood.

The Sixth Table shews how many Pins of an Evener any number of Bouts will fill, run with any number of Legs. There are different ways of counting Eveners; but in this Table it is the total number of Pins that is counted.

The Seventh Table shews when an Evener is marked on Ell, how many Pins are upon any number of Nails. There are some that count Eveners by Scores, and some that count them by Hundreds, but in this Table it is the total number of Pins that is counted.

The Eighth Table shews when a Reed is marked on Ell, how many Splits are upon any number of Nails. In counting Reeds they are commonly divided into Hundreds, Porters, and Splits; but in this Table it is the total number of Splits that is counted.

The Ninth Table shews how much of a Reed any number of Warp will fill, with three, four, or five Threads in the Split. There was no occasion to mention how much of a Reed any number of Warp will fill, with two Threads in the Split, for each Hundred Threads will fill a Hundred of a Reed, and each Warp will fill a Porter, and each Thread will fill a Split.

The Tenth Table shews how to sett Cambs, or Heddles to Reeds. There are some that count this one way, and some another; and so I could not make a Table of this kind to please every Weaver; but I have made one that will answer the purpose.

At the beginning of each Table there is a large Explanation thereof; by the perusal of which, any one that has a reasonable capacity may easily come to understand any of the Tables.

The Second Part of this Book contains the Art of Weaving by the Sliding Rule, or a True and Exact Method of Counting by that Rule. There are different Methods of Counting by the Sliding Rule, but I have adapted the plainest Method which the meanest Capacity may easily understand.

In

In the beginning of this Part I have given a Description of the Sliding Rule, which will serve for a Key to open up the Method of Counting therewith.

It would be needless for me to recommend this Book; for it will fully recommend itself. There are two things that I have studied in the composing thereof. 1st. To make it true and exact. 2d. To make it plain and easy understood.

There are some that perhaps will say that this Publication is needless, there being books of this kind as good as this published already; but if it had been so that others had been as good as this, there would have been nothing to excite me to make this Performance: it was only the deficiency of others that made me to take such a Work in Hand.

There are no doubt some that will approve of this Book and commend it: Others perhaps will despise it; for some love nothing but what they do themselves, although they can do nothing to purpose. Others perhaps will think themselves too wise to need teaching, and therefore will set it at nought, and say they could do such and such things themselves, and that they have no use for it; but it needs give them no offence for it was never intended for them. Others perhaps will find fault with some things in it who are not capable to correct them, for none are readier to find fault with other men's works than those that are ignorant. It is impossible to write so as to please every one, especially those that are too critical; indeed I never expected to do it; but I have endeavoured to publish nothing but what is true, whether men be pleased with it or not.

There are two things for which I have chiefly intended this Book: 1st. For the good of the Public, 2d. For my own Profit: If I had said that I intended it only for the good of the Public, others would have said the contrary; but when I have said that it was partly intended for my own profit, that will save others the trouble of saying so. Those things that I have said will perhaps give offence to some; but those that are charitable will think no evil, and others will do as they please.

PERTH, Nov. }
26. 1735. }

JAMES MALLOCH.

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contains the length of the Web, beginning at one yard, and advancing by one yard, till it come to twenty yards, and then advancing by ten yards, till it come to a hundred yards; the other five columns contain the Yarn that is in the Warp. Upon the

Weaver's Companion.

PART I.

Containing a NEW and CORRECT SET of TABLES adapted for the use of Weavers.

EXPLANATION of the following TABLE.

THIS Table shews how much Yarn it will take to Warp any Web. Upon the head of each page is marked the quantity of Warp, beginning at one Warp, and advancing by one Warp, till it come to 70 Warp, or 14 hundred; then advancing by one hundred till it come to 28 hundred. Every page is divided into two parts, and each part into six columns; the first column of each part

A contains

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contains the yards in the length of the Web, beginning at one yard, and advancing by one yard, till it come to twenty yards, and then advancing by ten yards, till it come to a hundred yards; the other five columns contain the Yarn that is in the Warp. Upon the head of the columns Yds. stands for Yards, Sp. for Spyndles, Hr. for Heers, Sc. for Scores, Th. for Threads, and Sv. for Sevenths or Seventh-parts of a Thread.

Note 1. In counting Yarn it is commonly divided into Spyndles, Heers, Cuts, Scores, and Threads.

20 Threads	}	make	{	1 Score.
6 Scores				1 Cut.
2 Cuts				1 Heer.
24 Heers				1 Spyndle.

But, in the following Table, (because it would not answer so well otherwise) I count the Yarn by Spyndles, Heers, Scores, Threads, and Sevenths, or Seventh-parts of a Thread.

7 Sevenths	}	make	{	1 Thread.
20 Threads				1 Score.
12 Scores				1 Heer.
24 Heers				1 Spyndle.

Note 2. In counting the Warp of a Web it is divided into Hundreds, Warps, and Threads.

20 Threads

20 Threads } make { 1 Warp.
 5 Warps } { 1 Hundred.

Note 3. In calculating Yarn for the Warp of a Web, one yard and a quarter in Yarn is allowed for one yard in Cloth.

If you would know how much Yarn it will take to Warp any Web, look to the top of the pages for the number of Warp that the Web is to have, then look in the first column under the Warp for the length you design the Web to be; and in the same line of the other columns you will find how much Yarn it will take for Warp. *For Example,* If you would know how much Yarn it will take to Warp 90 yards of a Web, having 45 Warp, look to the top of the pages for 45 Warp, and in the first column you will find 90 yards, and in the same line you will find 14 Sp. 11 Hr. 1 Sc. 14 Th. 2 Sv. which is the Yarn it takes for Warp.

If in the length of the Web, there be any odd yards, besides the even tens, first take for the even tens, and then for the odd yards, and add them together. *For Example,* If the fore-mentioned Web is to be 92 yards long, in the same line with 90 yards, you will find, as before, 14 Sp. 11 Hr. 1 Sc. 14 Th. 2 Sv. and in the same line with 2 yards

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yards you will find 7 Hr. 8 Sc. 11 Th. 3 Sv. which added together makes 14 Sp. 18 Hr. 10 Sc. 5 Th. 5 Sv. which is the Yarn 92 yards takes for Warp.

If you are to make a Web more than a hundred yards long, add any two numbers together which will make the number you want. *For Example*, If you would know how much Yarn it will take to Warp a Web 150 yards long, having 52 Warp, look to the head of the pages for 52 Warp, then look in the first column for 100 yards, and in the same line with 100 yards, you will find 18 Sp. 13 Hr. 8 Sc. 11 Th. 3 Sv. then look in the same line with 50 yards, and you will find 9 Sp. 6 Hr. 10 Sc. 5 Th. 5 Sv. which added together will make 27 Sp. 20 Hr. 6 Sc. 17 Th. 1 Sv. which is the Yarn for 150 yards having 52 Warp.

If your Web is to have more Warp than 28 hundred, add any two numbers together which will make the number you want. *For Example*, if your Web is to have 33 hundred Warp, first take the Yarn for 28 hundred, whatever length you design to make your Web, then take the Yarn for 5 hundred, the same length, and add it together; or, if your Warp is to be 40 hundred, take double the

the quantity of Yarn that 20 hundred takes for Warp.

If you have any quantity of Yarn, and would know how many yards it will Warp; look to the heads of the pages for the Warp you are to have, and when you find your Warp, look below for what Yarn you have; but, if you do not find it exactly, take what is less and nearest to it, and subtract the one from the other; and look for the difference that is betwixt them among the numbers less than ten, and if you do not find it exactly, again subtract the one from the other, and the two numbers in the first column, that are upon the same lines with the quantities of Yarn you took, added together, are the yards the quantity of Yarn which you have will Warp; and what remains, being less than the Warp for one yard, must be left. *For Example*, if you would know how many yards 15 spyndles of Yarn will Warp of a Web having 45 Warp; look to the heads of the pages for 45 Warp, and under it you will find 14 Sp. 11 Hr. 1 Sc. 14 Th. 2 Sv. in the same line with 90 yards; for you will not find 15 Spyndles exactly. The difference between 14 Sp. 11 Hr. 1 Sc. 14 Th. 2 Sv. and 15 Spyndles, is 12 Hr. 10 Sc.

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Sc. 5 Th. 5 Sv. among the numbers less than ten, and in the same line with 3 yards you will find 11 Hr. 6 Sc. 17 Th. 1 Sv. which wants 1 Hr. 3 Sc. 8 Th. 4 Sv. of 15 Spyn- dles. So you see that 15 Spyn- dles of Yarn will Warp 93 yards of a Web having 45 Warp, and 1 Hr. 3 Sc. 8 Th. 4 Sv. will be left.

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1 Warp.						2 Warp.					
Yds.	Sp.	Hr.	Sc.	Th.	Sv.	Yds.	Sp.	Hr.	Sc.	Th.	Sv.
1	0	0	1	0	4	1	0	0	2	1	1
2	0	0	2	1	1	2	0	0	4	2	2
3	0	0	3	1	5	3	0	0	6	3	3
4	0	0	4	2	2	4	0	0	8	4	4
5	0	0	5	2	6	5	0	0	10	5	5
6	0	0	6	3	3	6	0	1	0	6	6
7	0	0	7	4	0	7	0	1	2	8	0
8	0	0	8	4	4	8	0	1	4	9	1
9	0	0	9	5	1	9	0	1	6	10	2
10	0	0	10	5	5	10	0	1	8	11	3
11	0	0	11	6	2	11	0	1	10	12	4
12	0	1	0	6	6	12	0	2	0	13	5
13	0	1	1	7	3	13	0	2	2	14	6
14	0	1	2	8	0	14	0	2	4	16	0
15	0	1	3	8	4	15	0	2	6	17	1
16	0	1	4	9	1	16	0	2	8	18	2
17	0	1	5	9	5	17	0	2	10	19	3
18	0	1	6	10	2	18	0	3	1	0	4
19	0	1	7	10	6	19	0	3	3	1	5
20	0	1	8	11	3	20	0	3	5	2	6
30	0	2	6	17	1	30	0	5	1	14	2
40	0	3	5	2	6	40	0	6	10	5	5
50	0	4	3	8	4	50	0	8	6	17	1
60	0	5	1	14	2	60	0	10	3	8	4
70	0	6	0	0	0	70	0	12	0	0	0
80	0	6	10	5	5	80	0	13	8	11	3
90	0	7	8	11	3	90	0	15	5	2	6
100	0	8	6	17	1	100	0	17	1	14	2

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3 Warp.						4 Warp.					
Yds.	Sp.	Hr.	Sc.	Th.	Sr.	Yds.	Sp.	Hr.	Sc.	Th.	Sr.
1	0	0	3	1	5	1	0	0	4	2	2
2	0	0	6	3	3	2	0	0	8	4	4
3	0	0	9	5	1	3	0	0	12	6	6
4	0	1	0	6	6	4	0	1	16	8	8
5	0	1	3	8	4	5	0	1	20	10	10
6	0	1	6	10	2	6	0	2	24	12	12
7	0	1	9	12	0	7	0	2	28	14	14
8	0	2	0	13	5	8	0	2	32	16	16
9	0	2	3	15	3	9	0	3	36	18	18
10	0	2	6	17	1	10	0	3	40	20	20
11	0	2	9	18	6	11	0	3	44	22	22
12	0	3	1	0	4	12	0	4	48	24	24
13	0	3	4	2	2	13	0	4	52	26	26
14	0	3	7	4	0	14	0	4	56	28	28
15	0	3	10	5	5	15	0	5	60	30	30
16	0	4	1	7	3	16	0	5	64	32	32
17	0	4	4	9	1	17	0	5	68	34	34
18	0	4	7	10	6	18	0	6	72	36	36
19	0	4	10	12	4	19	0	6	76	38	38
20	0	5	1	14	2	20	0	6	80	40	40
30	0	7	8	11	3	30	0	10	120	60	60
40	0	10	3	8	4	40	0	13	160	80	80
50	0	12	10	5	5	50	0	17	200	100	100
60	0	15	5	2	6	60	0	20	240	120	120
70	0	18	0	0	0	70	0	24	280	140	140
80	0	20	6	17	1	80	0	3	320	160	160
90	0	23	14	0	2	90	0	6	360	180	180
100	1	1	8	11	3	100	1	10	400	200	200

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5 Warp, or 100.

6 Warp.

Yds.	Sp.	Hr.	Sc.	Th.	Sv.	Yds.	Sp.	Hr.	Sc.	Th.	Sv.		
1	0	0	0	5	2	6	0	1	0	0	6	3	3
2	0	0	0	10	5	5	0	2	0	1	10	6	6
3	0	0	1	3	8	4	0	3	0	1	6	10	2
4	0	0	1	8	11	3	0	4	0	2	0	13	5
5	0	0	2	1	14	2	0	5	0	2	6	17	1
6	0	0	2	6	17	1	0	6	0	3	0	1	4
7	0	0	3	0	0	0	0	7	0	3	7	4	0
8	0	0	3	5	2	6	0	8	0	4	1	7	3
9	0	0	3	10	5	5	0	9	0	4	7	10	6
10	0	0	4	3	8	4	0	10	0	5	1	14	2
11	0	0	4	8	11	3	0	11	0	5	7	17	5
12	0	0	5	1	14	2	0	12	0	6	2	1	1
13	0	0	5	6	17	1	0	13	0	6	8	4	4
14	0	0	6	0	0	0	0	14	0	7	2	8	0
15	0	0	6	5	2	6	0	15	0	7	8	11	3
16	0	0	6	10	5	5	0	16	0	8	2	14	6
17	0	0	7	3	8	4	0	17	0	8	8	18	2
18	0	0	7	8	11	3	0	18	0	9	3	1	5
19	0	0	8	1	14	2	0	19	0	9	9	5	1
20	0	0	8	6	17	1	0	20	0	10	3	8	4
30	0	0	12	10	5	5	0	30	0	15	5	2	6
40	0	0	17	1	14	2	0	40	0	20	6	17	1
50	0	0	21	5	2	6	0	50	1	1	8	11	3
60	1	1	1	8	11	3	0	60	1	6	10	5	5
70	1	1	6	0	0	0	0	70	1	12	0	0	0
80	1	1	10	3	8	4	0	80	1	17	1	14	2
90	1	1	14	6	1	1	0	90	1	22	3	8	4
100	1	1	18	10	5	5	0	100	2	3	5	2	6

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7 Warp.

Yds.	Sp.	Hr.	Sc.	Th.	Sv.
1	0	0	7	4	0
2	0	1	2	8	0
3	0	1	9	12	0
4	0	2	4	16	0
5	0	3	0	0	0
6	0	3	7	4	0
7	0	4	2	8	0
8	0	4	9	12	0
9	0	5	4	16	0
10	0	6	0	0	0
11	0	6	7	4	0
12	0	7	2	8	0
13	0	7	9	12	0
14	0	8	4	16	0
15	0	9	0	0	0
16	0	9	7	4	0
17	0	10	2	8	0
18	0	10	9	12	0
19	0	11	4	16	0
20	0	12	0	0	0
30	0	18	0	0	0
40	1	0	0	0	0
50	1	6	0	0	0
60	1	12	0	0	0
70	1	18	0	0	0
80	2	0	0	0	0
90	2	6	0	0	0
100	2	12	0	0	0

8 Warp.

Yds.	Sp.	Hr.	Sc.	Th.	Sv.
1	0	0	8	4	4
2	0	1	4	9	1
3	0	2	0	13	5
4	0	2	8	18	2
5	0	3	5	2	6
6	0	4	1	7	3
7	0	4	9	12	0
8	0	5	5	16	4
9	0	6	2	1	1
10	0	6	10	5	5
11	0	7	6	10	2
12	0	8	2	14	6
13	0	8	10	19	3
14	0	9	7	4	0
15	0	10	3	8	4
16	0	10	11	13	1
17	0	11	7	17	5
18	0	12	4	2	2
19	0	13	0	6	6
20	0	13	8	11	3
30	0	20	6	17	1
40	1	3	5	2	6
50	1	10	3	8	4
60	1	17	1	14	2
70	2	0	0	0	0
80	2	6	10	5	5
90	2	13	8	11	3
100	2	20	6	17	1

The WEAVER'S COMPANION. 11

9 Warp.						10 Warp, or 200.					
Yds.	Sp.	Hr.	Sc.	Th.	Sv.	Yds.	Sp.	Hr.	Sc.	Th.	Sv.
1	0	0	9	5	1	1	0	0	10	5	5
2	0	1	6	10	2	2	0	1	8	11	3
3	0	2	3	15	3	3	0	2	6	17	1
4	0	3	1	0	4	4	0	3	5	2	6
5	0	3	10	5	5	5	0	4	3	8	4
6	0	4	7	10	6	6	0	5	1	14	2
7	0	5	4	16	0	7	0	6	0	0	0
8	0	6	2	1	1	8	0	6	10	5	5
9	0	6	11	6	2	9	0	7	8	11	3
10	0	7	8	11	3	10	0	8	6	17	1
11	0	8	5	16	4	11	0	9	5	2	6
12	0	9	3	1	5	12	0	10	3	8	4
13	0	10	0	6	6	13	0	11	1	14	2
14	0	10	9	12	0	14	0	12	0	0	0
15	0	11	6	17	1	15	0	12	10	5	5
16	0	12	4	2	2	16	0	13	8	11	3
17	0	13	1	7	3	17	0	14	6	17	1
18	0	13	10	12	4	18	0	15	5	2	6
19	0	14	7	17	5	19	0	16	3	8	4
20	0	15	5	2	6	20	0	17	1	14	2
30	0	23	1	14	2	30	1	1	8	11	3
40	1	6	10	5	5	40	1	10	3	8	4
50	1	14	6	17	1	50	1	18	10	5	5
60	1	22	3	8	4	60	2	3	5	2	6
70	2	6	0	0	0	70	2	12	0	0	0
80	2	13	8	11	3	80	2	20	6	17	1
90	2	21	5	2	6	90	3	5	1	14	2
100	3	5	1	14	2	100	3	13	8	11	3

12 The WEAVER'S COMPANION.

11 Warp.						12 Warp.					
Yds.	Sp.	Hr.	Sc.	Th.	Sv.	Yds.	Sp.	Hr.	Sc.	Th.	Sv.
1	0	0	11	6	2	1	0	1	0	6	6
2	0	1	10	12	4	2	0	2	0	13	5
3	0	2	9	18	6	3	0	3	1	0	4
4	0	3	9	5	1	4	0	4	1	7	3
5	0	4	8	11	3	5	0	5	1	14	2
6	0	5	7	17	5	6	0	6	2	1	1
7	0	6	7	4	0	7	0	7	2	8	0
8	0	7	6	10	2	8	0	8	2	14	6
9	0	8	5	16	4	9	0	9	3	1	5
10	0	9	5	2	6	10	0	10	3	8	4
11	0	10	4	9	1	11	0	11	3	15	3
12	0	11	3	15	3	12	0	12	4	2	2
13	0	12	3	1	5	13	0	13	4	9	1
14	0	13	2	8	0	14	0	14	4	16	0
15	0	14	1	14	2	15	0	15	5	2	6
16	0	15	1	0	4	16	0	16	5	9	5
17	0	16	0	6	6	17	0	17	5	16	4
18	0	16	11	13	1	18	0	18	6	3	3
19	0	17	10	19	3	19	0	19	6	10	2
20	0	18	10	5	5	20	0	20	6	17	1
30	1	4	3	8	4	30	1	6	10	5	5
40	1	13	8	11	3	40	1	17	1	14	2
50	1	23	1	14	2	50	2	3	5	2	6
60	2	8	6	17	1	60	2	13	8	11	3
70	2	18	0	0	0	70	3	0	0	0	0
80	3	3	5	2	6	80	3	10	3	8	4
90	3	12	10	5	5	90	3	20	6	17	1
100	3	22	3	8	4	100	4	6	10	5	5

The WEAVER'S COMPANION. 13

13 Warp.						14 Warp.					
Yds.	Sp.	Hr.	Sc.	Th.	Sv.	Yds.	Sp.	Hr.	Sc.	Th.	Sv.
1	0	1	1	7	3	1	0	1	2	8	0
2	0	2	2	14	6	2	0	2	4	16	0
3	0	3	4	2	2	3	0	3	7	4	0
4	0	4	5	9	5	4	0	4	9	12	0
5	0	5	6	17	1	5	0	6	0	0	0
6	0	6	8	4	4	6	0	7	2	8	0
7	0	7	9	12	0	7	0	8	4	16	0
8	0	8	10	19	3	8	0	9	7	4	0
9	0	10	0	6	6	9	0	10	9	12	0
10	0	11	1	14	2	10	0	12	0	0	0
11	0	12	3	1	5	11	0	13	2	8	0
12	0	13	4	9	1	12	0	14	4	16	0
13	0	14	5	16	4	13	0	15	7	4	0
14	0	15	7	4	0	14	0	16	9	12	0
15	0	16	8	11	3	15	0	18	0	0	0
16	0	17	9	18	6	16	0	19	2	8	0
17	0	18	11	6	2	17	0	20	4	16	0
18	0	20	0	13	5	18	0	21	7	4	0
19	0	21	2	1	1	19	0	22	9	12	0
20	0	22	3	8	4	20	1	0	0	0	0
30	1	9	5	2	6	30	1	12	0	0	0
40	1	20	6	17	1	40	2	0	0	0	0
50	2	7	8	11	3	50	2	12	0	0	0
60	2	18	10	5	5	60	3	0	0	0	0
70	3	6	0	0	0	70	3	12	0	0	0
80	3	17	1	14	2	80	4	0	0	0	0
90	4	4	3	8	4	90	4	12	0	0	0
100	4	15	5	2	6	100	5	0	0	0	0

14 The WEAVER'S COMPANION.

15 Warp, or 300.						16 Warp.					
Yds.	Sp.	Hr.	Se.	Th.	Sv.	Yds.	Sp.	Hr.	Se.	Th.	Sv.
1	0	1	3	8	4	1	0	1	4	9	1
2	0	2	6	17	1	2	0	2	8	18	2
3	0	3	10	5	5	3	0	4	1	7	3
4	0	5	1	14	2	4	0	5	5	16	4
5	0	6	5	2	6	5	0	6	10	5	5
6	0	7	8	11	3	6	0	8	2	14	6
7	0	9	0	0	0	7	0	9	7	4	0
8	0	10	3	8	4	8	0	10	11	13	1
9	0	11	6	17	1	9	0	12	4	2	2
10	0	12	10	5	5	10	0	13	8	11	3
11	0	14	1	14	2	11	0	15	1	0	4
12	0	15	5	2	6	12	0	16	5	9	5
13	0	16	8	11	3	13	0	17	9	18	6
14	0	18	0	0	0	14	0	19	2	8	0
15	0	19	3	8	4	15	0	20	6	17	1
16	0	20	6	17	1	16	0	21	11	6	2
17	0	21	10	5	5	17	0	23	3	15	3
18	0	23	1	14	2	18	1	0	8	4	4
19	1	0	5	2	6	19	1	2	0	13	5
20	1	1	8	11	3	20	1	3	5	2	6
30	1	14	6	17	1	30	1	17	1	14	2
40	2	3	5	2	6	40	2	6	10	5	5
50	2	16	3	8	4	50	2	20	6	17	1
60	3	5	1	14	2	60	3	10	3	8	4
70	3	18	0	0	0	70	4	0	0	0	0
80	4	6	10	5	5	80	4	13	8	11	3
90	4	19	8	11	3	90	5	3	5	2	6
100	5	8	6	17	1	100	5	17	1	14	2

The WEAVER's COMPANION. 15

17 Warp.						18 Warp.					
Yds.	Sp.	Hr.	Sc.	Th.	Sv.	Yds.	Sp.	Hr.	Sc.	Th.	Sv.
1	0	1	5	9	5	1	0	1	6	10	2
2	0	2	10	19	3	2	10	3	1	0	4
3	0	4	4	9	1	3	0	4	7	10	6
4	0	5	9	18	6	4	0	6	2	1	1
5	0	7	3	8	4	5	0	7	8	11	3
6	0	8	8	18	2	6	0	9	3	1	5
7	0	10	2	8	0	7	0	10	9	12	0
8	0	11	7	17	5	8	0	12	4	2	2
9	0	13	1	7	3	9	0	13	10	12	4
10	0	14	6	17	1	10	0	15	5	2	6
11	0	16	0	6	6	11	0	16	11	13	1
12	0	17	5	16	4	12	0	18	6	3	3
13	0	18	11	6	2	13	0	20	0	13	5
14	0	20	4	16	0	14	0	21	7	4	0
15	0	21	10	5	5	15	0	23	1	14	2
16	0	23	3	15	3	16	1	0	8	4	4
17	1	0	9	5	1	17	1	2	2	14	6
18	1	2	2	14	6	18	1	3	9	5	1
19	1	3	8	4	4	19	1	5	3	15	3
20	1	5	1	14	2	20	1	6	10	5	5
30	1	19	8	11	3	30	1	22	3	8	4
40	2	10	3	8	4	40	2	13	8	11	3
50	3	0	10	5	5	50	3	5	1	14	2
60	3	15	5	2	6	60	3	20	6	17	1
70	4	6	0	0	0	70	4	12	0	0	0
80	4	20	6	17	1	80	5	3	5	2	6
90	5	11	1	14	2	90	5	18	10	5	5
100	6	1	8	11	3	100	6	10	3	8	4

16 The WEAVER'S COMPANION.

19 Warp.						20 Warp, or 400.					
Yds.	Sp.	Hr.	Sc.	Th.	Sv.	Yds.	Sp.	Hr.	Sc.	Th.	Sv.
1	0	1	7	10	6	1	0	1	8	11	3
2	0	13	3	1	5	2	0	3	5	2	6
3	0	4	10	12	4	3	0	5	1	14	2
4	0	6	6	3	3	4	0	6	10	5	5
5	0	8	1	14	2	5	0	8	6	17	1
6	0	9	9	5	1	6	0	10	3	8	4
7	0	11	4	16	0	7	0	12	0	0	0
8	0	13	0	6	6	8	0	13	8	11	3
9	0	14	7	17	5	9	0	15	5	2	6
10	0	16	3	8	4	10	0	17	1	14	2
11	0	17	10	19	3	11	0	18	10	5	5
12	0	19	6	10	2	12	0	20	6	17	1
13	0	21	2	1	1	13	0	22	3	8	4
14	0	22	9	12	0	14	1	0	0	0	0
15	1	0	5	2	6	15	1	1	8	11	3
16	1	2	0	13	5	16	1	3	5	2	6
17	1	3	8	4	4	17	1	5	1	14	2
18	1	5	3	15	3	18	1	6	10	5	5
19	1	6	11	6	2	19	1	8	6	17	1
20	1	8	6	17	1	20	1	10	3	8	4
30	2	0	10	5	5	30	2	3	5	2	6
40	2	17	1	14	2	40	2	20	6	17	1
50	3	9	5	2	6	50	3	13	8	11	3
60	4	1	8	11	3	60	4	6	10	5	5
70	4	18	0	0	0	70	5	0	0	0	0
80	5	10	3	8	4	80	5	17	1	14	2
90	6	2	6	17	1	90	6	10	3	8	4
100	6	18	10	5	5	100	7	3	15	2	6

The WEAVER'S COMPANION. 17

21 st Warp.						22 nd Warp.					
Yds.	Sp.	Hr.	Sc.	Th.	Sv.	Yds.	Sp.	Hr.	Sc.	Th.	Sv.
2	1	00	12	9	121 0	1	1	10	11	100	121 4
2	2	01	34	70	42 0	2	2	01	32	90	52 1
2	3	02	50	40	162 0	2	3	01	52	70	172 5
2	4	03	76	20	84 0	2	4	01	77	60	104 2
2	5	04	90	100	02 0	2	5	00	192	50	22 6
2	6	05	104	190	120 0	2	6	10	111	30	150 3
2	7	06	124	170	42 0	2	7	10	132	120	82 0
2	8	07	140	160	02 0	2	8	00	152	110	02 4
2	9	08	160	120	82 0	2	9	10	161	110	130 1
2	10	09	180	00	00 10	2	10	10	180	100	50 15
2	11	10	192	90	121 10	2	11	08	201	80	181 12
2	12	08	210	71	42 10	2	12	10	222	70	102 16
2	13	10	232	41	162 10	2	13	01	17	01	61 32 13
2	14	11	24	21	84 10	2	14	17	22	41	164 10
2	15	10	130	01	02 10	2	15	10	42	31	82 14
2	16	11	014	91	120 10	2	16	01	10	67	21 10 11
2	17	11	160	71	42 10	2	17	10	80	01	132 15
2	18	10	82	141	168 10	2	18	11	91	111	68 12
2	19	11	107	121	80 10	2	19	17	112	191	180 16
2	20	11	112	01	002 0	2	20	12	132	181	1102 3
2	30	12	8	62	102 002 0	2	30	12	81	162	1702 1
2	40	32	00	102 004 0		2	40	3	130	52	202 6
2	50	30	180	04	002 0	2	50	13	222	34	802 4
2	60	42	122	02	000 0	2	60	42	172	114	002 2
2	70	50	60	00	002 0	2	70	50	128	102	002 0
2	80	160	00	100	002 0	2	80	168	61	100	502 5
2	90	161	187	107	000 0	2	90	72	10	87	1102 3
2	100	178	121	103	000 0	2	100	171	202	68	1700 1

18 The WEAVER'S COMPANION.

23 Warp.						24 Warp.							
Yds.	Sp.	Hr.	Sc.	Th.	St.	Yds.	Sp.	Hr.	Sc.	Th.	St.		
1	12	00	11	11	13	1	0	1	0	2	0	13	5
2	22	00	3	11	6	2	0	2	0	4	10	7	3
3	3	10	5	10	19	3	0	3	0	6	20	1	1
4	4	10	7	10	12	4	0	4	0	8	2	14	6
5	5	07	9	10	5	5	0	5	0	10	3	8	4
6	6	10	11	19	18	6	0	6	0	12	14	20	2
7	7	0	13	9	12	0	0	7	0	14	4	16	0
8	8	0	15	19	5	8	0	8	0	16	5	9	5
9	9	10	17	8	18	2	0	9	0	18	16	30	3
10	10	0	19	8	11	13	0	10	0	20	16	17	11
11	11	8	21	0	8	4	11	0	22	7	10	16	
12	12	10	23	7	17	15	0	12	1	0	8	4	14
13	13	10	1	7	10	16	0	13	11	2	8	18	12
14	14	1	3	7	4	10	0	14	1	4	9	12	10
15	15	1	5	6	17	11	0	15	10	6	10	5	15
16	16	1	7	6	10	12	0	16	11	8	10	19	13
17	17	11	9	6	3	13	0	17	1	10	11	13	11
18	18	1	11	5	16	14	0	18	1	13	0	6	16
19	19	1	13	15	9	15	0	19	1	15	11	0	14
20	20	1	15	15	2	16	0	20	1	17	11	14	12
30	30	2	11	1	14	12	0	30	2	13	8	11	13
40	40	3	6	10	5	15	0	40	3	10	3	8	14
50	50	4	2	6	17	1	0	50	4	6	10	5	15
60	60	4	22	13	8	14	0	60	5	3	15	2	16
70	70	5	18	0	0	10	0	70	6	0	0	0	10
80	80	6	13	8	11	13	0	80	6	20	6	17	11
90	90	7	9	5	2	16	0	90	7	17	11	14	12
100	100	8	5	1	14	12	0	100	8	13	8	11	13

THE WEAVER'S COMPANION 19

25 Warp, or 500.						26 Warp					
Yds.	Sp.	Hr.	Sc.	Th.	Sw.	Yds.	Sp.	Hr.	Sc.	Th.	Sw.
0100	2	1	14	1	2	1200	2	2	14	1	6
0200	4	3	8	4		0200	4	5	9	5	
0300	6	5	2	6		0300	6	8	4	4	
0400	8	6	17	1		0400	8	10	19	3	
0500	10	8	11	3		0500	11	11	14	2	
0600	12	10	5	5		0600	13	14	9	1	
0700	15	0	0	0		0700	15	17	4	0	
0800	17	1	14	8	2	0800	17	18	9	18	6
0900	19	3	8	4		0900	20	10	13	5	
1000	21	5	2	6		1000	22	13	8	4	
1100	23	6	17	11		1100	22	16	3	13	
1200	1	8	11	3		1200	24	18	18	2	
1300	3	10	5	5		1300	24	21	13	21	
1400	6	0	0	0		1400	24	21	8	10	
1500	8	1	14	2		1500	25	18	9	5	2
1600	10	3	8	4		1600	25	21	7	17	5
1700	12	5	2	6		1700	25	21	12	7	4
1800	14	6	17	11		1800	26	16	17	7	3
1900	16	8	11	3		1900	26	18	4	2	2
2000	18	10	5	5		2000	26	20	17	0	1
3000	2	16	3	8	4	3000	2	18	10	5	5
4000	3	13	8	11	3	4000	3	17	11	14	2
5000	4	11	1	14	2	5000	4	15	15	2	6
6000	5	8	6	17	1	6000	5	13	18	11	3
7000	6	6	0	0	0	7000	6	12	10	0	0
8000	7	3	5	2	6	8000	7	10	13	8	4
9000	8	0	10	5	5	9000	8	8	16	17	0
10000	8	22	3	8	4	10000	9	6	10	5	5

20 THE WEAVER'S COMPANION

27 Warp.

Yds.	Sp.	Hr.	Sc.	Th.	Sv.
0	1	10	2	3	15 1 3
2	2	0	4	7	10 2 6
4	3	0	8	6	11 0 6 2
6	4	0	9	8	3 0 1 4 5
8	5	4	10	11	16 0 17 2 1
10	6	0	13	10	12 0 4
12	7	4	0	16	2 0 8 0
14	8	8	0	18	16 0 3 8 3
16	9	8	0	20	9 18 0 6
18	10	8	0	23	1 14 0 2
20	11	2	10	5	9 15
22	12	8	3	9	1 5 2 1
24	13	11	6	1	0 2 4
26	14	8	1	8	4 16 4 0
28	15	1	10	0	8 11 2 3
30	16	11	13	10	1 6 0 6
32	17	2	15	2	4 1 2 2
34	18	1	17	0	7 17 8 5
36	19	1	19	11	13 0 1
38	20	1	22	0	3 1 8 0 4
40	22	2	21	8	5 2 0 6
42	24	3	20	16	17 0 1
44	26	4	19	2	8 11 0 3
46	28	5	18	10	2 5 0 5
48	30	6	18	1	0 0 0 0
50	32	7	17	0	1 14 0 2
52	34	8	16	3	8 0 4
54	36	9	15	5	2 0 6

28 Warp.

Yds.	Sp.	Hr.	Sc.	Th.	Sv.
0	1	10	2	4	16 1 0
2	2	0	8	4	9 12 0 0
4	3	0	7	2	0 8 0 0
6	4	10	0	9	7 0 4 0
8	5	10	12	0	0 0 0 0
10	6	2	0	14	4 16 0 0
12	7	0	0	16	2 9 12 0 0
14	8	4	0	19	2 0 8 8 0
16	9	8	0	21	0 7 0 4 0 0
18	10	8	1	20	0 0 0 0 0
20	11	7	10	2	8 16 1 0
22	12	11	8	4	1 9 12 0 0
24	13	2	1	7	2 8 0 0
26	14	0	1	9	0 7 1 4 0 0
28	15	4	11	12	0 1 0 0 0
30	16	1	14	0	4 16 0 0
32	17	1	16	2	9 12 0 0
34	18	11	19	4	2 1 8 8 0
36	19	1	21	0	7 1 4 0 0
38	20	2	2	0	0 8 0 1 0 0 0
40	22	3	0	0	0 0 0 0 0
42	24	4	8	0	0 0 0 0 0
44	26	5	1	0	10 4 0 0 0
46	28	6	0	8	0 0 0 0 0
48	30	7	0	0	0 0 0 0 0
50	32	8	0	0	0 0 0 0 0
52	34	9	0	0	0 8 0 0 0
54	36	10	0	0	0 8 0 0 0

29 Warps

Yds.	Sp.	Hr.	Sc.	Th.	Sv.
1	10	8	2	5	16
2	10	8	2	5	16
3	10	8	2	5	16
4	10	8	2	5	16
5	10	8	2	5	16
6	10	8	2	5	16
7	10	8	2	5	16
8	10	8	2	5	16
9	10	8	2	5	16
10	10	8	2	5	16
11	10	8	2	5	16
12	10	8	2	5	16
13	10	8	2	5	16
14	10	8	2	5	16
15	10	8	2	5	16
16	10	8	2	5	16
17	10	8	2	5	16
18	10	8	2	5	16
19	10	8	2	5	16
20	10	8	2	5	16
21	10	8	2	5	16
22	10	8	2	5	16
23	10	8	2	5	16
24	10	8	2	5	16
25	10	8	2	5	16
26	10	8	2	5	16
27	10	8	2	5	16
28	10	8	2	5	16
29	10	8	2	5	16
30	10	8	2	5	16

30 Warps for 600.

Yds.	Sp.	Hr.	Sc.	Th.	Sv.
1	10	7	2	6	17
2	10	7	2	6	17
3	10	7	2	6	17
4	10	7	2	6	17
5	10	7	2	6	17
6	10	7	2	6	17
7	10	7	2	6	17
8	10	7	2	6	17
9	10	7	2	6	17
10	10	7	2	6	17
11	10	7	2	6	17
12	10	7	2	6	17
13	10	7	2	6	17
14	10	7	2	6	17
15	10	7	2	6	17
16	10	7	2	6	17
17	10	7	2	6	17
18	10	7	2	6	17
19	10	7	2	6	17
20	10	7	2	6	17
21	10	7	2	6	17
22	10	7	2	6	17
23	10	7	2	6	17
24	10	7	2	6	17
25	10	7	2	6	17
26	10	7	2	6	17
27	10	7	2	6	17
28	10	7	2	6	17
29	10	7	2	6	17
30	10	7	2	6	17

22 The WEAVER'S COMPANION.

31 Warp.						32 Warp.					
Yds.	Sp.	Hr.	Sc.	Th.	Sv.	Yds.	Sp.	Hr.	Sc.	Th.	Sv.
1	1	0	2	7	15	1	1	0	2	8	18
2	2	0	5	3	15	2	2	0	5	5	16
3	3	0	8	7	11	3	3	0	8	2	14
4	4	0	10	7	10	4	4	0	10	11	13
5	5	0	13	13	8	5	5	0	13	8	11
6	6	0	15	11	6	6	6	0	16	5	9
7	7	0	18	7	4	7	7	0	19	2	8
8	8	0	21	3	1	8	8	0	21	11	6
9	9	0	23	10	19	9	9	1	0	8	4
10	10	1	2	6	17	10	10	1	3	5	2
11	11	1	5	2	14	11	11	1	6	2	1
12	12	1	7	10	12	12	12	1	8	10	19
13	13	1	10	6	10	13	13	1	11	7	17
14	14	1	13	12	8	14	14	1	14	4	16
15	15	1	15	10	5	15	15	1	17	1	14
16	16	1	18	6	3	16	16	1	19	10	12
17	17	1	21	2	1	17	17	1	22	7	10
18	18	1	23	9	18	18	18	2	1	4	9
19	19	2	2	5	16	19	19	2	4	1	7
20	20	2	5	1	14	20	20	2	6	10	5
30	30	3	7	8	11	30	30	3	10	3	8
40	40	4	10	3	8	40	40	4	13	8	11
50	50	5	12	10	5	50	50	5	17	1	14
60	60	6	15	5	2	60	60	6	20	6	17
70	70	7	18	0	0	70	70	8	0	0	0
80	80	8	20	6	17	80	80	9	3	5	2
90	90	9	23	1	14	90	90	10	6	10	5
100	100	11	1	8	11	100	100	11	10	3	18

The WEAVER'S COMPANION. 23

33 Warp.

Yds.	Sp.	Hr.	Sc.	Th.	Ev.
1	0	2	9	18	6
2	0	5	7	17	5
3	0	8	5	16	4
4	0	11	3	15	3
5	0	14	1	14	2
6	0	16	11	13	1
7	0	19	9	12	0
8	0	22	7	10	6
9	1	1	5	9	5
10	1	4	3	8	4
11	1	7	1	7	3
12	1	9	11	6	2
13	1	12	9	5	1
14	1	15	7	4	0
15	1	18	5	2	6
16	1	21	3	1	5
17	2	0	1	0	4
18	2	2	10	19	3
19	2	5	8	18	2
20	2	8	6	17	1
30	3	12	10	5	5
40	4	17	12	14	2
50	5	21	5	2	6
60	7	1	8	11	3
70	8	6	0	0	0
80	9	10	3	8	4
90	10	14	6	17	1
100	11	18	10	5	5

34 Warp.

Yds.	Sp.	Hr.	Sc.	Th.	Ev.
1	0	2	10	19	3
2	0	5	9	18	6
3	0	8	8	18	2
4	0	11	7	17	5
5	0	14	6	17	1
6	0	17	5	16	4
7	0	20	4	16	0
8	0	23	3	15	3
9	1	2	2	14	6
10	1	5	1	14	2
11	1	8	0	13	5
12	1	10	11	13	1
13	1	13	10	12	4
14	1	16	9	12	0
15	1	19	8	11	3
16	1	22	7	10	6
17	2	1	6	10	2
18	2	4	5	9	5
19	2	7	4	9	1
20	2	10	3	8	4
30	3	15	5	2	6
40	4	20	6	17	1
50	6	1	8	11	3
60	7	6	10	5	5
70	8	12	10	0	0
80	9	17	1	14	2
90	10	22	3	18	4
100	12	3	5	2	6

24 The WEAVER'S COMPANION.

35 Warp, or 700.						36 Warp.					
Yds.	Sp.	Hr.	Sc.	Th.	Sr.	Yds.	Sp.	Hr.	Sc.	Th.	Sr.
1	0	3	0	0	0	1	0	3	1	0	4
2	0	6	0	0	0	2	0	6	2	1	1
3	0	9	0	0	0	3	0	9	3	1	5
4	0	12	10	0	0	4	0	12	4	2	2
5	0	15	10	0	0	5	0	15	5	2	6
6	0	18	10	0	0	6	0	18	6	3	3
7	0	21	0	0	0	7	0	21	7	4	0
8	1	0	0	0	0	8	1	0	8	4	4
9	1	3	0	0	0	9	1	3	9	5	1
10	1	6	0	0	10	10	1	6	10	5	5
11	1	9	0	0	0	11	1	9	11	6	2
12	1	12	0	0	0	12	1	13	0	6	6
13	1	15	0	0	10	13	1	16	1	7	3
14	1	18	0	0	10	14	1	19	12	8	0
15	1	21	0	0	10	15	1	22	13	8	4
16	2	0	0	0	10	16	2	1	24	9	1
17	2	3	0	0	10	17	2	4	5	9	5
18	2	6	0	0	10	18	2	7	6	10	2
19	2	9	0	0	10	19	2	10	7	10	6
20	2	12	0	0	0	20	2	13	8	11	3
30	3	18	0	0	0	30	3	20	16	17	1
40	5	0	0	0	0	40	5	3	5	20	6
50	6	6	0	0	0	50	6	10	3	8	4
60	7	12	0	0	0	60	7	17	1	14	2
70	8	18	0	0	0	70	9	0	0	0	0
80	10	0	0	0	0	80	10	6	10	5	5
90	11	6	0	0	0	90	11	13	8	11	3
100	12	12	0	0	0	100	12	20	6	17	1

The WEAVER's COMPANION.

25

37 Warp.							38 Warp.						
Yds.	Sp.	Hr.	Sc.	Th.	Sv.		Yds.	Sp.	Hr.	Sc.	Th.	Sv.	
0	1	0	3	2	1	1	1	0	3	3	1	5	
2	0	6	4	2	2		2	0	6	6	3	3	
3	0	9	6	3	3		3	0	9	9	5	1	
4	0	12	8	4	4		4	0	13	0	6	6	
5	0	15	10	5	5		5	0	16	3	8	4	
6	0	19	0	6	6		6	0	19	6	10	2	
7	0	22	2	8	0		7	0	22	9	12	0	
8	1	1	4	9	1		8	1	2	0	13	5	
9	1	4	6	10	2		9	1	5	3	15	3	
10	1	7	8	11	3		10	1	8	6	17	1	
11	1	10	10	12	4		11	1	11	9	18	6	
12	1	14	0	13	5		12	1	15	1	0	4	
13	1	17	2	14	6		13	1	18	4	2	2	
14	1	20	4	16	0		14	1	21	7	4	0	
15	1	23	6	17	1		15	2	0	10	5	5	
16	2	2	8	18	2		16	2	4	1	7	3	
17	2	5	10	19	3		17	2	7	4	9	1	
18	2	9	1	0	14		18	2	10	7	10	6	
19	2	12	13	1	15		19	2	13	10	12	4	
20	2	15	5	2	6		20	2	17	1	14	2	
30	3	23	1	14	2		30	4	1	8	11	3	
40	5	6	10	5	5		40	5	10	3	8	4	
50	6	14	6	17	1		50	6	18	10	5	5	
60	7	22	13	8	4		60	8	3	5	2	6	
70	9	6	0	0	0		70	9	12	0	0	0	
80	10	13	8	11	3		80	10	20	6	17	1	
90	11	21	5	2	6		90	12	5	1	14	2	
100	13	5	1	14	2		100	13	13	8	11	3	

D

39 Warp.

Yds.	Sp.	Hr.	Sc.	Th.	Sv.
1	0	3	4	2	2
2	0	6	8	4	4
3	0	10	0	6	6
4	0	13	4	9	1
5	0	16	8	11	3
6	0	20	0	13	5
7	0	23	4	16	0
8	1	2	8	18	2
9	1	6	1	0	4
10	1	9	5	2	6
11	1	12	9	5	1
12	1	16	1	7	3
13	1	19	5	9	5
14	1	22	9	12	0
15	2	2	1	14	2
16	2	5	5	16	4
17	2	8	9	18	6
18	2	12	2	1	1
19	2	15	6	3	3
20	2	18	10	5	5
30	4	4	3	8	4
40	5	13	8	11	3
50	6	23	1	14	2
60	8	8	6	17	1
70	9	18	0	0	0
80	11	3	5	2	6
90	12	12	10	5	5
100	13	22	3	8	4

40 Warp, or 800.

Yds.	Sp.	Hr.	Sc.	Th.	Sv.
1	0	3	5	2	6
2	0	6	10	5	5
3	0	10	3	8	4
4	0	13	8	11	3
5	0	17	1	14	2
6	0	20	6	17	1
7	1	0	0	0	0
8	1	3	5	2	6
9	1	6	10	5	5
10	1	10	3	8	4
11	1	13	8	11	3
12	1	17	1	14	2
13	1	20	6	17	1
14	2	0	0	0	0
15	2	3	5	2	6
16	2	6	10	5	5
17	2	10	3	8	4
18	2	13	8	11	3
19	2	17	1	14	2
20	2	20	6	17	1
30	4	6	10	5	5
40	5	17	1	14	2
50	7	3	5	2	6
60	8	13	8	11	3
70	10	0	0	0	0
80	11	10	3	8	4
90	12	20	6	17	1
100	14	6	10	5	5

The WEAVER'S COMPANION. 87

41 Warps						42 Warps								
Yds.	Sp.	Hr.	Sc.	Th.	Sw.	Yds.	Sp.	Hr.	Sc.	Th.	Sw.			
1	12	00	31	6	31	3	14	00	32	7	41	0		
2	20	100	7	00	6	6	20	0	7	20	8	0		
3	32	0	10	16	10	2	32	0	10	9	12	0		
4	40	0	14	10	13	5	48	0	14	14	16	0		
5	52	0	17	8	17	1	52	0	18	0	0	0		
6	60	0	21	1	0	4	60	0	21	7	4	0		
7	70	1	4	0	7	4	0	7	1	1	2	8	0	
8	81	1	4	1	7	3	80	1	4	9	12	0		
9	90	1	7	0	7	10	6	90	1	8	4	16	0	
10	101	1	8	1	1	14	12	100	1	12	10	0	10	
11	110	1	14	7	17	15	110	1	15	0	7	4	10	
12	121	1	18	1	2	1	11	12	1	19	0	2	8	10
13	130	1	21	8	4	14	130	1	22	0	9	12	10	
14	141	2	0	1	2	8	10	14	2	2	4	16	10	
15	152	2	4	8	11	13	15	8	2	6	0	0	10	
16	162	2	8	2	14	16	16	12	19	7	4	10		
17	172	2	11	0	8	18	12	17	12	13	12	8	10	
18	182	2	15	0	3	18	5	18	2	16	19	12	10	
19	192	2	18	9	5	0	1	19	2	20	4	16	0	
20	202	2	22	3	8	0	4	20	3	0	0	0	0	0
30	304	4	9	5	2	0	6	30	4	12	10	0	0	0
40	405	5	20	6	17	0	1	40	6	0	0	0	0	0
50	507	7	7	8	11	0	3	50	7	12	0	0	0	0
60	608	8	18	10	5	0	5	60	9	0	0	0	0	0
70	7010	0	6	0	0	0	0	70	10	12	0	0	0	0
80	8011	1	17	1	14	0	2	80	12	10	0	0	10	0
90	9013	2	4	3	8	0	4	90	13	12	10	0	0	0
100	10014	15	5	2	0	0	6	100	15	0	0	0	0	0

28 THE WEAVER'S COMPANION.

43 Warp.						44 Warp.					
Yds.	Sp.	Hr.	Sc.	Th.	Sw.	Yds.	Sp.	Hr.	Sc.	Th.	Sw.
0 1	0	3	8	4	4	0 1	0	3	9	5	1
0 2	0	7	4	9	1	0 2	0	7	6	10	2
0 3	0	11	0	13	5	0 3	0	11	0	15	3
0 4	0	14	8	18	2	0 4	0	15	4	10	4
0 5	0	18	5	22	6	0 5	0	18	10	5	5
0 6	0	22	1	7	3	0 6	0	22	1	7	3
0 7	1	1	9	12	0	0 7	1	2	4	16	0
0 8	1	5	5	16	4	0 8	1	6	2	1	1
0 9	1	9	2	10	1	0 9	1	9	11	6	2
0 10	1	12	10	5	5	0 10	1	13	18	11	3
0 11	1	16	16	10	12	0 11	1	17	15	16	14
0 12	1	20	12	14	16	0 12	1	21	13	1	15
0 13	1	23	10	19	13	0 13	2	1	10	6	16
0 14	1	27	3	7	4	0 14	2	4	9	12	10
0 15	2	7	3	8	14	0 15	2	8	6	17	11
0 16	2	10	11	13	11	0 16	2	12	4	2	12
0 17	2	14	17	17	15	0 17	2	16	11	7	13
0 18	2	18	14	2	12	0 18	2	19	10	12	14
0 19	2	22	10	6	16	0 19	2	23	7	17	15
0 20	3	10	8	11	13	0 20	3	3	5	2	16
0 30	4	14	16	17	11	0 30	4	17	1	14	12
0 40	6	3	5	2	16	0 40	6	6	10	5	15
0 50	7	16	13	8	14	0 50	7	20	6	17	11
0 60	9	5	1	14	12	0 60	9	10	3	8	14
0 70	10	18	10	10	10	0 70	11	0	0	10	10
0 80	12	6	10	5	15	0 80	12	13	18	11	13
0 90	13	19	8	11	13	0 90	14	3	5	12	16
0 100	15	8	6	17	11	0 100	15	17	1	14	12

The WEAVER'S COMPANION 39

45 Warp, of 900.

Yds.	Sp.	Hr.	Sc.	Th.	Sw.
1	17	01	34	100	51 5
2	21	10	78	80	11 3
3	3	04	11	16	17 1
4	4	02	15	50	12 6
5	5	10	19	03	82 4
6	6	08	23	01	14 2
0	7	11	0	34	01 0
1	8	01	10	16	101 58 5
2	9	10	10	18	111 3
3	10	11	14	16	117 11
4	11	1	18	15	121 6
5	12	1	22	3	8 14
6	13	0	22	1	14 12
10	14	2	6	0	0 10
11	15	1	2	9	10 52 15
12	16	2	13	7	18 11 13
13	17	2	17	1	6 17 11
14	18	2	21	5	8 28 16
15	19	3	1	3	8 14
16	20	3	5	0	1 14 0 2
22	30	4	19	8	11 0 3
15	40	6	10	0	3 8 14
21	50	8	0	10	5 0 25
24	60	9	15	5	0 12 0 6
20	70	11	6	0	10 0 0
23	80	12	20	6	17 0 1
26	90	14	11	0	1 14 0 2
21	100	16	1	8	11 0 3

46 Warp.

Yds.	Sp.	Hr.	Sc.	Th.	Sw.
1	10	00	34	110	61 2
2	22	100	78	100	12 4
3	30	01	11	19	018 6
4	4	01	15	90	54 1
5	5	10	19	02	80 11 3
6	6	08	23	7	17 5
0	7	1	34	7	4 0
1	8	11	78	6	110 2
2	9	1	11	15	116 4
3	10	1	15	5	120 16
4	11	1	19	4	9 11
5	12	1	23	3	15 13
6	13	2	34	3	1 15
10	14	0	12	78	2 8 10
11	15	2	11	1	14 12
12	16	2	15	0	11 0 14
13	17	0	12	19	0 0 6 16
14	18	2	22	0	11 13 11
15	19	0	3	2	10 19 13
16	20	1	3	6	10 5 0 5
22	30	4	0	12	3 8 0 4
15	40	6	1	13	7 18 0 13
21	50	8	2	5	1 14 0 2
24	60	11	9	20	6 17 0 1
20	70	11	0	12	10 10 0 0
23	80	13	3	0	15 2 0 8 6
26	90	14	0	18	10 15 0 5
21	100	16	0	10	13 8 0 4

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47 Warp.

Yds.	Sp.	Hr.	Sc.	Th.	Sw.
1	0	4	0	6	6
2	0	8	0	13	5
3	0	12	1	0	4
4	0	16	1	7	3
5	0	20	1	14	2
6	1	0	2	1	1
7	1	4	2	8	0
8	1	8	2	14	6
9	1	12	3	1	5
10	1	16	3	8	14
11	1	20	3	15	13
12	2	0	4	2	12
13	2	4	4	9	11
14	2	8	4	16	10
15	2	12	5	2	16
16	2	16	5	9	15
17	2	20	5	16	14
18	3	0	6	3	13
19	3	4	6	10	12
20	3	8	6	17	11
30	5	0	10	5	5
40	6	17	1	14	2
50	8	9	5	2	6
60	10	1	8	11	3
70	11	18	0	10	0
80	13	10	3	8	4
90	15	2	6	17	1
100	16	18	10	5	5

48 Warp.

Yds.	Sp.	Hr.	Sc.	Th.	Sw.
1	0	4	1	7	3
2	1	0	8	2	14
3	1	0	12	1	4
4	1	0	16	1	5
5	1	0	20	6	17
6	1	1	0	8	4
7	1	4	9	12	0
8	1	8	10	19	3
9	1	12	13	10	6
10	1	16	17	11	14
11	1	20	18	13	11
12	2	0	1	4	9
13	2	4	5	5	16
14	2	8	9	7	4
15	2	12	13	8	11
16	2	16	17	9	18
17	2	20	21	11	6
18	3	2	10	13	15
19	3	6	2	1	1
20	3	10	3	8	4
30	5	3	5	2	6
40	6	20	6	17	1
50	8	13	8	11	3
60	10	6	10	5	5
70	12	0	0	0	0
80	13	17	1	14	2
90	15	10	3	8	4
100	17	3	5	2	6

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49 Warp						50 Warp for 1000.					
Yds.	Sp.	Hr.	Sc.	Th.	SV.	Yds.	Sp.	Hr.	Sc.	Th.	SV.
1	0	4	2	8	0	1	0	4	3	8	4
2	0	8	4	16	0	2	0	8	6	17	1
3	0	12	7	4	0	3	0	12	10	5	5
4	0	16	9	12	0	4	0	17	11	14	2
5	0	21	0	0	0	5	0	21	5	2	6
6	1	1	2	8	0	6	1	1	8	11	3
7	1	5	4	16	0	7	1	6	0	0	0
8	1	9	7	4	0	8	1	10	3	8	4
9	1	13	9	12	0	9	1	14	6	17	1
10	1	18	0	0	0	10	1	18	10	5	5
11	1	22	2	8	0	11	1	23	1	14	12
12	2	2	4	16	0	12	2	3	5	2	6
13	2	6	7	4	0	13	2	7	8	11	13
14	2	10	9	12	0	14	2	12	0	0	10
15	2	15	0	0	0	15	2	16	3	8	14
16	2	19	2	8	0	16	2	20	6	17	11
17	2	23	4	16	0	17	3	0	10	5	15
18	3	3	7	4	0	18	3	5	1	14	12
19	3	7	9	12	0	19	3	9	5	2	16
20	3	12	0	0	0	20	3	13	8	11	13
30	5	6	10	0	0	30	5	8	6	17	1
40	7	0	0	0	0	40	7	13	5	2	16
50	8	18	0	0	0	50	8	22	3	8	14
60	10	12	0	10	0	60	10	17	1	14	12
70	12	6	0	10	0	70	12	12	0	10	0
80	14	0	0	10	0	80	14	6	10	15	8
90	15	18	10	10	0	90	16	1	8	11	13
100	17	12	10	10	0	100	17	20	6	17	1

51 Warp.						52 Warp.						
Yds.	Sp.	Hr.	Sc.	Th.	Sv.	Yds.	Sp.	Hr.	Sc.	Th.	Sv.	
1	18	0	4	4	9	1	18	0	4	5	9	5
2	27	10	8	8	18	2	27	10	8	10	19	3
3	36	0	13	1	7	3	36	0	13	4	9	1
4	45	0	17	5	16	4	45	0	17	9	18	6
5	54	0	21	10	5	5	54	0	22	3	8	4
6	63	1	2	2	14	6	63	1	2	8	18	2
7	72	1	6	7	4	0	72	1	7	2	8	0
8	81	1	10	11	13	1	81	1	11	7	17	5
9	90	1	15	4	2	2	90	1	16	11	7	3
10	100	1	19	8	11	3	100	1	20	6	17	1
11	111	2	0	11	0	4	111	2	1	10	6	16
12	122	2	4	5	9	5	122	2	5	5	16	4
13	133	2	8	9	18	16	133	2	9	11	6	2
14	144	2	13	12	8	10	144	2	14	4	16	10
15	155	2	17	16	17	11	155	2	18	10	5	5
16	166	2	21	11	6	12	166	2	23	13	15	3
17	177	3	2	3	15	13	177	3	3	9	5	1
18	188	3	6	8	4	14	188	3	8	2	14	6
19	199	3	11	0	13	15	199	3	12	8	4	4
20	210	3	15	5	2	16	210	3	17	1	14	2
30	315	5	11	1	14	2	315	5	13	8	11	3
40	420	7	6	10	5	5	420	7	10	3	8	4
50	525	9	2	6	17	2	525	9	6	10	5	5
60	630	10	22	13	8	4	630	11	3	5	12	6
70	735	12	18	10	0	0	735	13	0	0	0	0
80	840	14	13	8	11	8	840	14	20	6	17	1
90	945	16	9	5	12	6	945	16	17	11	14	2
100	1050	18	5	1	14	2	1050	18	13	18	11	3

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53 Warp.

54 Warp.

Yds.	Sp.	Ht.	Sc.	Th.	Sv.	Yds.	Sp.	Ht.	Sc.	Th.	Sv.
1	0	4	6	10	2	1	0	4	7	10	6
2	0	9	1	0	4	2	0	9	3	1	5
3	0	13	7	10	6	3	0	13	10	12	4
4	0	18	2	1	1	4	0	18	6	3	3
5	0	22	8	11	3	5	0	23	1	14	2
6	1	3	3	1	5	6	1	3	9	5	1
7	1	7	9	12	0	7	1	8	4	16	0
8	1	12	4	2	2	8	1	13	0	6	6
9	1	16	10	12	4	9	1	17	7	17	5
10	1	21	5	2	6	10	1	22	3	8	4
11	2	1	11	13	1	11	2	2	10	19	3
12	2	6	6	3	3	12	2	7	6	10	2
13	2	11	0	13	5	13	2	12	3	1	1
14	2	15	7	4	0	14	2	16	9	12	0
15	2	20	1	14	2	15	2	21	5	2	6
16	3	0	8	4	4	16	3	2	0	13	5
17	3	5	2	14	6	17	3	6	8	4	4
18	3	9	9	5	1	18	3	11	3	15	3
19	3	14	3	15	3	19	3	15	11	6	2
20	3	18	10	5	5	20	3	20	6	17	1
30	5	16	3	8	4	30	5	18	10	5	5
40	7	13	8	11	3	40	7	17	1	14	2
50	9	11	1	14	2	50	9	15	5	2	6
60	11	8	6	17	1	60	11	13	8	11	3
70	13	6	0	0	0	70	13	12	0	0	0
80	15	3	5	2	6	80	15	10	3	8	4
90	17	0	10	5	5	90	17	8	6	17	1
100	18	22	3	8	4	100	19	6	10	5	5

E

34 The WEAVER'S COMPANION.

55 Warp, or 1100.						56 Warp.					
Yds.	Sp.	Hr.	Sc.	Th.	Sv.	Yds.	Sp.	Hr.	Sc.	Th.	Sv.
1	0	4	8	11	3	1	0	4	9	12	0
2	0	9	5	2	6	2	0	9	7	4	0
3	0	14	1	14	2	3	0	14	4	16	0
4	0	18	10	5	5	4	0	19	2	8	0
5	0	23	6	17	1	5	1	0	0	0	0
6	1	4	3	8	4	6	1	4	9	12	0
7	1	9	0	0	0	7	1	9	7	4	0
8	1	13	8	11	3	8	1	14	4	16	0
9	1	18	5	2	6	9	1	19	2	8	0
10	1	23	1	14	2	10	2	0	0	0	0
11	2	3	10	5	5	11	2	4	9	12	0
12	2	8	6	17	1	12	2	9	7	4	0
13	2	13	3	8	4	13	2	14	4	16	0
14	2	18	0	0	0	14	2	19	2	8	0
15	2	22	8	11	3	15	3	0	0	0	0
16	3	3	5	2	6	16	3	4	9	12	0
17	3	8	1	14	2	17	3	9	7	4	0
18	3	12	10	5	5	18	3	14	4	16	0
19	3	17	6	17	1	19	3	19	2	8	0
20	3	22	3	8	4	20	4	0	0	0	0
30	5	21	5	2	6	30	6	0	0	0	0
40	7	20	6	17	1	40	8	0	0	0	0
50	9	19	8	11	3	50	10	0	0	0	0
60	11	18	10	5	5	60	12	0	0	0	0
70	13	18	0	0	0	70	14	0	0	0	0
80	15	17	1	14	2	80	16	0	0	0	0
90	17	16	3	8	4	90	18	0	0	0	0
100	19	15	5	2	6	100	20	0	0	0	0

57 Warp. W 00						58 Warp.					
Yds.	Sp.	Hr.	Sc.	Th.	Sv.	Yds.	Sp.	Hr.	Sc.	Th.	Sv.
1	0	14	10	12	14	1	0	4	11	13	1
2	0	9	09	5	1	2	0	9	11	6	2
3	0	14	7	17	5	3	0	14	10	19	3
4	0	19	6	10	2	4	0	19	10	12	4
5	1	80	5	2	6	5	1	0	10	15	5
6	1	5	3	15	3	6	1	5	9	18	6
7	1	10	2	8	0	7	1	10	9	12	0
8	1	15	1	0	4	8	1	15	9	5	1
9	1	19	11	13	1	9	1	20	8	18	2
10	2	0	10	5	5	10	2	1	8	11	3
11	2	5	8	18	2	11	2	6	8	4	4
12	2	10	7	10	6	12	2	11	7	17	5
13	2	15	6	3	3	13	2	16	7	10	6
14	2	20	4	16	0	14	2	21	7	4	0
15	3	1	3	8	4	15	3	2	6	17	1
16	3	6	2	1	1	16	3	7	6	10	2
17	3	11	0	13	5	17	3	12	6	3	3
18	3	15	1	6	2	18	3	17	5	16	4
19	3	20	9	18	6	19	3	22	5	9	5
20	4	1	8	11	3	20	4	3	5	2	6
30	6	2	6	17	1	30	6	5	1	14	2
40	8	3	5	12	6	40	8	6	10	5	5
50	10	4	3	8	4	50	10	8	6	17	1
60	12	5	1	14	2	60	12	10	3	8	4
70	14	6	0	0	0	70	14	12	0	0	0
80	16	6	10	5	5	80	16	13	8	11	3
90	18	7	8	11	3	90	18	15	5	2	6
100	20	8	6	17	1	100	20	17	1	14	2

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59 Warp						60 Warps or 1200.					
Yds.	Sp.	Hr.	Sc.	Th.	St.	Yds.	Sp.	Hr.	Sc.	Th.	St.
1	0	5	0	13	5	1	0	5	1	14	2
2	0	10	1	7	3	2	0	10	3	8	4
3	0	15	2	1	1	3	0	15	5	2	6
4	0	20	2	14	6	4	0	20	6	17	1
5	1	1	3	8	4	5	1	1	8	11	3
6	1	6	4	2	2	6	1	6	10	5	5
7	1	11	4	16	0	7	1	12	0	10	0
8	1	16	5	9	5	8	1	17	1	14	2
9	1	21	6	3	3	9	1	22	3	18	4
10	2	2	6	17	1	10	2	3	5	2	6
11	2	7	7	10	6	11	2	8	6	17	1
12	2	12	8	4	4	12	2	13	8	11	3
13	2	17	8	18	2	13	2	18	10	5	5
14	2	22	9	12	0	14	3	0	0	0	0
15	3	3	10	5	5	15	3	5	1	14	2
16	3	8	10	19	3	16	3	10	3	8	4
17	3	13	11	13	1	17	3	15	5	2	6
18	3	19	10	6	6	18	3	20	6	17	1
19	4	0	1	0	4	19	4	1	8	11	3
20	4	5	1	14	2	20	4	6	10	5	5
30	6	7	8	11	3	30	6	10	3	8	4
40	8	10	3	8	4	40	8	13	8	11	3
50	10	12	10	5	5	50	10	17	1	14	2
60	12	15	5	2	6	60	12	20	6	17	1
70	14	18	0	0	0	70	15	0	0	0	0
80	16	20	6	17	1	80	17	3	5	12	6
90	18	23	1	14	2	90	19	6	10	5	5
100	21	1	8	11	3	100	21	10	3	8	4

61. Warp.							62. Warp.						
Yds.	Sp.	Hr.	Sc.	Th.	St.	Sv.	Yds.	Sp.	Hr.	Sc.	Th.	St.	Sv.
1	0	5	2	14	6		1	0	5	3	15	3	
2	0	10	5	9	5		2	0	10	7	10	6	
3	0	15	8	4	4		3	0	15	11	6	2	
4	0	20	10	19	3		4	0	21	3	1	5	
5	1	2	1	14	2		5	1	2	6	17	1	
6	1	7	4	9	1		6	1	7	10	12	4	
7	1	12	7	14	0		7	1	13	2	8	0	
8	1	17	9	18	6		8	1	18	6	3	3	
9	1	23	10	13	5		9	1	23	9	18	6	
10	2	4	3	8	4		10	2	5	1	14	2	
11	2	9	6	3	3		11	2	10	5	9	5	
12	2	14	8	18	2		12	2	15	9	5	1	
13	2	19	11	13	1		13	2	21	1	0	4	
14	3	1	2	8	0		14	3	2	4	16	0	
15	3	6	5	2	6		15	3	7	8	11	3	
16	3	11	7	17	5		16	3	13	0	6	6	
17	3	16	10	12	4		17	3	18	4	2	2	
18	3	22	1	7	3		18	3	23	7	17	5	
19	4	3	4	2	2		19	4	4	11	13	1	
20	4	8	6	17	1		20	4	10	3	8	4	
30	6	12	10	5	5		30	6	15	5	2	6	
40	8	17	1	14	2		40	8	20	6	17	1	
50	10	21	5	12	6		50	11	1	8	11	3	
60	13	1	8	11	3		60	13	6	10	5	5	
70	15	6	0	0	0		70	15	12	0	0	0	
80	17	10	3	8	4		80	17	17	1	14	2	
90	19	14	6	17	1		90	19	22	3	8	4	
100	21	18	10	5	5		100	22	3	5	2	6	

38. The WEAVER'S COMPANION.

63 Warp.						64 Warp.					
Yds.	Sp.	Hr.	Sc.	Th.	Sv.	Yds.	Sp.	Hr.	Sc.	Th.	Sv.
1	0	5	4	16	10	1	0	5	5	16	14
2	0	10	9	12	0	2	0	10	11	13	1
3	0	16	2	8	0	3	0	16	25	9	5
4	0	21	7	4	0	4	0	21	11	6	2
5	1	3	0	0	0	5	1	13	5	12	6
6	1	8	4	16	0	6	1	18	10	19	3
7	1	13	9	12	0	7	1	14	4	16	0
8	1	19	2	8	0	8	1	19	10	12	4
9	2	0	7	4	0	9	2	1	4	19	1
10	2	6	0	0	0	10	2	6	10	5	5
11	2	11	4	16	0	11	2	12	4	2	2
12	2	16	9	12	0	12	2	17	9	18	6
13	2	22	2	8	0	13	2	23	3	15	3
14	3	3	7	4	0	14	3	4	9	12	0
15	3	9	0	0	0	15	3	10	3	8	4
16	3	14	4	16	0	16	3	15	9	5	1
17	3	19	9	12	0	17	3	21	3	1	5
18	4	1	2	8	0	18	4	2	8	18	2
19	4	6	7	4	0	19	4	8	2	14	6
20	4	12	0	0	0	20	4	13	8	11	3
30	6	18	0	0	0	30	6	20	6	17	1
40	9	0	0	0	0	40	9	3	5	2	6
50	11	6	0	0	0	50	11	10	3	8	4
60	13	12	0	0	0	60	13	17	1	14	2
70	15	18	0	0	0	70	16	0	0	0	0
80	18	0	0	0	0	80	18	6	10	5	5
90	20	6	0	0	0	90	20	13	18	11	3
100	22	12	0	0	0	100	22	20	6	17	1

The WEAVER'S COMPANION. 39

65 Warp, or 1300.

Yds.	Sp.	Ha.	Sc.	Th.	Sr.
1	0	5	6	17	1
2	0	11	1	14	2
3	0	16	8	11	3
4	0	22	3	8	4
5	1	3	10	5	5
6	1	9	5	2	6
7	1	15	0	0	0
8	1	20	6	17	1
9	2	2	1	14	2
10	2	7	8	11	3
11	2	13	3	8	4
12	2	18	10	5	5
13	3	0	5	2	6
14	3	6	0	0	0
15	3	11	6	17	1
16	3	17	1	14	2
17	3	22	8	11	3
18	4	4	3	8	4
19	4	9	10	5	5
20	4	15	5	2	6
30	6	23	1	14	2
40	9	6	10	5	5
50	11	14	6	17	1
60	13	22	3	8	4
70	16	6	0	0	0
80	18	13	8	11	3
90	20	21	5	2	6
100	23	5	1	14	2

66 Warp.

Yds.	Sp.	Ha.	Sc.	Th.	Sr.
1	0	5	7	17	5
2	0	11	3	15	3
3	0	16	11	13	1
4	0	22	7	10	6
5	1	4	3	8	4
6	1	9	11	6	2
7	1	15	7	4	0
8	1	21	3	1	5
9	2	2	10	19	3
10	2	8	6	17	1
11	2	14	2	14	6
12	2	19	10	12	4
13	3	1	6	10	2
14	3	7	2	8	0
15	3	12	10	5	5
16	3	18	6	3	3
17	4	0	2	1	1
18	4	5	9	18	6
19	4	11	5	16	4
20	4	17	1	14	2
30	7	1	8	11	3
40	9	10	3	8	4
50	11	18	10	5	5
60	14	3	5	2	6
70	16	12	0	0	0
80	18	20	6	17	1
90	21	5	1	14	2
100	23	13	8	11	3

40 THE WEAVER'S COMPANION.

67 Warp.

Yds.	Sp.	Hr.	Sc.	Th.	Sv.
1	0	5	8	18	2
2	0	11	5	16	4
3	0	17	2	14	6
4	0	22	11	13	1
5	1	4	8	11	3
6	1	10	5	9	5
7	1	16	2	8	0
8	1	21	11	6	2
9	2	3	8	4	4
10	2	9	5	2	6
11	2	15	2	1	1
12	2	20	10	19	3
13	3	2	7	17	5
14	3	8	4	16	0
15	3	14	1	14	2
16	3	19	10	12	4
17	4	1	7	10	6
18	4	7	4	9	1
19	4	13	1	7	3
20	4	18	10	5	5
30	7	4	3	8	4
40	9	13	8	11	3
50	11	23	1	14	2
60	14	8	6	17	1
70	16	18	0	0	0
80	19	3	5	2	6
90	21	12	10	5	5
100	23	22	8	8	4

68 Warp.

Yds.	Sp.	Hr.	Sc.	Th.	Sv.
1	0	5	9	18	6
2	0	11	7	17	5
3	0	17	5	16	4
4	0	23	3	15	3
5	1	5	1	14	2
6	1	10	11	13	1
7	1	16	9	12	0
8	1	22	7	10	6
9	2	4	5	9	5
10	2	10	3	8	4
11	2	16	1	7	3
12	2	21	11	6	2
13	3	3	9	5	1
14	3	9	7	4	0
15	3	15	5	2	6
16	3	21	3	1	5
17	4	3	1	0	4
18	4	8	10	19	3
19	4	14	8	18	2
20	4	20	6	17	1
30	7	6	10	5	5
40	9	17	1	14	2
50	12	3	5	2	6
60	14	13	8	11	3
70	17	0	0	0	0
80	19	10	3	8	4
90	21	20	6	17	1
100	24	6	10	5	5

169 Warp. 1						70 Warp, or 1400.									
Yds.	Sp.	Hr.	Sc.	Th.	Sv.	Yds.	Sp.	Hr.	Sc.	Th.	Sv.				
2	12	00	15	00	19	3	0	12	07	60	00	01	0		
2	21	08	11	00	18	6	2	22	00	12	00	00	0		
1	37	10	01	70	08	18	2	4	38	00	18	00	00	0	
0	45	02	23	00	71	17	5	2	41	18	00	01	00	0	
4	58	10	50	16	17	1	2	5	41	11	60	01	00	0	
2	61	11	11	11	15	16	4	1	67	11	12	10	01	00	0
0	70	10	17	00	42	16	0	0	70	10	18	10	01	00	0
2	82	10	23	00	31	15	3	0	82	22	00	00	00	00	0
2	91	12	28	50	12	14	6	2	92	20	16	00	00	00	0
1	107	12	01	10	00	14	0	4	108	20	12	00	10	00	10
0	111	22	17	00	00	13	15	2	111	20	18	00	00	01	10
1	120	22	22	01	11	13	1	2	124	31	00	00	00	00	10
0	134	13	40	10	00	12	14	1	137	13	00	10	00	00	10
0	140	30	10	00	90	12	10	0	149	30	12	10	00	00	10
0	152	30	16	00	80	11	13	0	152	32	18	00	00	00	10
0	161	13	22	00	70	10	16	2	162	40	10	00	00	00	10
0	171	40	40	00	60	10	12	4	178	40	60	10	00	00	10
0	180	42	10	00	50	90	15	2	181	40	12	00	10	00	10
0	190	42	16	00	40	90	11	2	194	41	18	00	00	00	10
0	200	42	22	00	30	80	4	2	207	50	00	00	00	00	10
0	300	70	90	15	00	20	6	2	307	70	12	00	00	00	10
0	400	90	20	00	16	17	0	1	407	100	00	10	00	00	10
0	500	120	00	17	00	18	11	0	500	120	12	00	10	00	10
0	600	140	18	10	00	15	0	5	600	150	00	00	10	00	10
0	700	170	60	00	00	00	0	0	700	170	12	10	10	00	10
0	800	190	17	00	00	14	0	2	800	200	00	10	10	00	10
0	900	220	40	13	00	08	0	4	900	220	12	00	00	00	10
0	1000	240	15	00	15	00	0	6	1000	250	10	10	10	00	10

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15 Hundred.						16 Hundred.					
Yds.	Sp.	Hr.	Sc.	Th.	Sw.	Yds.	Sp.	Hr.	Sc.	Th.	Sw.
10	00	60	50	21	6	10	00	61	100	51	5
20	00	120	100	50	5	20	00	123	81	11	3
30	00	190	130	80	4	30	00	200	61	17	1
40	10	10	81	11	3	40	10	30	50	20	6
50	10	80	114	2		50	10	100	30	80	4
60	10	140	61	17	1	60	10	170	114	2	
70	10	210	00	00	0	70	20	00	100	00	0
80	20	30	50	28	6	80	20	61	100	50	5
90	20	90	100	50	5	90	20	130	81	11	3
100	20	160	130	80	4	100	20	200	61	17	1
110	20	220	81	11	3	110	30	30	50	20	6
120	30	50	114	2		120	30	100	30	80	4
130	30	110	61	17	1	130	30	170	114	2	
140	30	180	00	00	0	140	40	00	00	00	0
150	40	00	50	28	6	150	40	61	100	50	5
160	40	60	100	50	5	160	40	130	81	11	3
170	40	130	30	80	4	170	40	200	61	17	1
180	40	190	81	11	3	180	50	30	50	20	6
190	50	280	114	2		190	50	100	30	80	4
200	50	80	61	17	1	200	50	170	114	2	
300	80	00	100	50	5	300	80	130	81	11	3
400	100	170	114	2		400	110	100	30	80	4
500	130	90	50	28	6	500	140	61	100	50	5
600	160	100	81	11	3	600	170	30	50	20	6
700	180	180	00	00	0	700	200	00	00	00	0
800	210	100	30	80	4	800	220	200	61	17	1
900	240	200	61	17	1	900	250	170	114	2	
1000	260	180	100	50	5	1000	280	130	81	11	3

The WEAVER'S COMPANION.

45

17 Hundred.						18 Hundred.					
Yds.	Sp.	Hr.	Sc.	Th.	Sv.	Yds.	Sp.	Hr.	Sc.	Th.	Sv.
1	0	7	3	8	4	1	0	7	8	11	3
2	0	14	6	17	1	2	0	15	5	2	6
3	0	21	10	5	5	3	0	23	1	14	2
4	1	5	1	14	2	4	1	6	10	5	5
5	1	12	5	2	6	5	1	14	6	17	1
6	1	19	8	11	3	6	1	22	3	8	4
7	2	3	0	0	0	7	2	6	0	0	0
8	2	10	3	8	4	8	2	13	18	11	3
9	2	17	6	17	1	9	2	21	5	2	6
10	3	0	10	5	5	10	3	5	1	14	2
11	3	8	1	14	2	11	3	12	10	5	5
12	3	15	5	2	6	12	3	20	6	17	1
13	3	22	8	11	3	13	4	4	3	8	4
14	4	6	0	0	0	14	4	12	0	0	0
15	4	13	3	8	4	15	4	19	8	11	3
16	4	20	6	17	1	16	5	3	5	2	6
17	5	3	10	5	5	17	5	11	1	14	2
18	5	11	1	14	2	18	5	18	10	5	5
19	5	18	5	2	6	19	6	2	6	17	1
20	6	1	8	11	3	20	6	10	3	8	4
30	9	2	6	17	1	30	9	15	5	2	6
40	12	3	5	2	6	40	12	20	6	17	1
50	15	4	3	8	4	50	16	1	8	11	3
60	18	5	1	14	2	60	19	6	10	5	5
70	21	6	0	0	0	70	22	12	0	0	0
80	24	6	10	5	5	80	25	17	1	14	2
90	27	7	8	11	3	90	28	22	3	8	4
100	30	8	6	17	1	100	32	3	5	2	6

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19 Hundred.

Yds.	Sp.	Hr.	Sc.	Th.	Sy.
1	11	0	8	10	14
2	2	0	16	3	8
3	3	1	0	5	2
4	4	1	0	8	6
5	5	1	0	8	1
6	6	1	0	8	1
7	7	1	0	8	1
8	8	1	0	8	1
9	9	1	0	8	1
10	10	1	0	8	1
11	11	1	0	8	1
12	12	1	0	8	1
13	13	1	0	8	1
14	14	1	0	8	1
15	15	1	0	8	1
16	16	1	0	8	1
17	17	1	0	8	1
18	18	1	0	8	1
19	19	1	0	8	1
20	20	1	0	8	1
30	30	1	0	8	1
40	40	1	0	8	1
50	50	1	0	8	1
60	60	1	0	8	1
70	70	1	0	8	1
80	80	1	0	8	1
90	90	1	0	8	1
100	100	1	0	8	1

20 Hundred.

Yds.	Sp.	Hr.	Sc.	Th.	Sy.
1	18	0	8	6	17
2	2	0	17	1	14
3	3	1	0	11	8
4	4	1	1	0	3
5	5	1	1	8	10
6	6	1	2	8	15
7	7	2	0	12	0
8	8	2	0	12	6
9	9	2	0	12	1
10	10	2	0	12	1
11	11	2	0	12	1
12	12	2	0	12	1
13	13	2	0	12	1
14	14	2	0	12	1
15	15	2	0	12	1
16	16	2	0	12	1
17	17	2	0	12	1
18	18	2	0	12	1
19	19	2	0	12	1
20	20	2	0	12	1
30	30	2	0	12	1
40	40	2	0	12	1
50	50	2	0	12	1
60	60	2	0	12	1
70	70	2	0	12	1
80	80	2	0	12	1
90	90	2	0	12	1
100	100	2	0	12	1

THE WEAVER'S COMPANION. 45

21 Hundred.							22 Hundred.						
Yds.	Sp.	Hr.	Sc.	Th.	St.		Yds.	Sp.	Hr.	Sc.	Th.	St.	
1	18	0	9	0	0	0	1	0	9	5	2	6	
2	2	0	18	0	0	0	2	1	0	18	10	5	5
3	3	1	3	0	0	0	3	1	10	4	3	8	4
4	4	1	12	0	0	0	4	1	13	8	11	3	
5	5	1	21	0	0	0	5	1	23	1	14	2	
6	6	2	6	0	0	0	6	1	21	8	6	17	1
7	7	2	15	0	0	0	7	2	18	10	0	0	
8	8	3	0	0	0	0	8	3	13	5	28	6	
9	9	3	9	0	0	0	9	3	12	10	5	5	
10	10	3	18	0	0	0	10	3	22	3	8	14	
11	11	4	3	0	0	0	11	4	7	8	11	13	
12	12	4	12	0	0	0	12	4	17	1	14	12	
13	13	4	21	0	0	0	13	4	15	2	6	17	11
14	14	5	6	0	0	0	14	5	12	10	0	10	
15	15	5	15	0	0	0	15	5	21	5	2	16	
16	16	6	0	0	0	0	16	6	16	10	5	15	
17	17	6	9	0	0	0	17	6	16	3	8	14	
18	18	6	18	0	0	0	18	7	10	8	11	13	
19	19	7	3	0	0	0	19	7	11	17	14	12	
20	20	7	12	0	0	0	20	7	20	6	17	1	
21	21	8	6	0	0	0	21	8	18	10	15	5	
22	22	8	15	0	0	0	22	8	17	1	14	2	
23	23	8	18	0	0	0	23	9	15	5	2	6	
24	24	9	12	0	0	0	24	9	13	8	11	3	
25	25	9	26	0	0	0	25	10	12	0	0	0	
26	26	10	3	0	0	0	26	10	3	8	14		
27	27	10	18	0	0	0	27	10	8	6	17	1	
28	28	11	12	0	0	0	28	11	6	10	5	5	

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23 Hundred.						24 Hundred.					
Yds.	Sp.	Hr.	Sc.	Th.	Sv.	Yds.	Sp.	Hr.	Sc.	Th.	Sv.
1	0	9	10	5	5	1	0	10	3	8	4
2	0	19	8	11	3	2	0	20	6	17	1
3	1	5	6	17	1	3	1	6	10	5	5
4	1	15	5	2	6	4	1	17	1	14	2
5	2	1	3	8	4	5	2	3	5	2	6
6	2	11	1	14	2	6	2	13	8	11	3
7	2	21	0	0	0	7	3	0	0	0	0
8	3	6	10	5	5	8	3	10	3	8	4
9	3	16	8	11	3	9	3	20	6	17	1
10	4	2	6	17	1	10	4	6	10	5	5
11	4	12	5	2	6	11	4	17	1	14	2
12	4	22	3	8	4	12	5	3	5	2	6
13	5	8	1	14	2	13	5	13	8	11	3
14	5	18	0	0	0	14	6	0	0	0	0
15	6	3	10	5	5	15	6	10	3	8	4
16	6	13	8	11	3	16	6	20	6	17	1
17	6	23	6	17	1	17	7	6	10	5	5
18	7	9	5	2	6	18	7	17	1	14	2
19	7	19	3	8	4	19	8	3	5	2	6
20	8	5	1	14	2	20	8	13	8	11	3
30	12	7	8	11	3	30	12	20	6	17	1
40	16	10	3	8	4	40	17	3	5	2	6
50	20	12	10	5	5	50	21	10	3	8	4
60	24	15	5	2	6	60	25	17	1	14	2
70	28	18	0	0	0	70	30	0	0	0	0
80	32	20	6	17	1	80	34	6	10	5	5
90	36	23	1	14	2	90	38	13	8	11	3
100	41	1	8	11	3	100	42	20	6	17	1

The WEAVER'S COMPANION. 47

25 Hundred.						26 Hundred.							
Yds.	Sp.	Hr.	Sc.	Th.	Sv.	Yds.	Sp.	Hr.	Sc.	Th.	Sv.		
1	0	0	10	8	11	3	1	1	0	11	1	14	2
2	0	0	21	5	2	6	2	2	0	22	3	8	4
3	1	8	11	14	2	3	11	9	5	2	6		
4	1	18	10	5	5	4	1	20	6	17	1		
5	2	5	6	17	1	5	2	7	8	11	3		
6	2	16	3	8	4	6	2	18	10	5	5		
7	3	3	0	0	0	7	3	6	0	0	0		
8	3	13	8	11	3	8	3	17	1	14	2		
9	4	0	5	2	6	9	4	4	3	8	4		
10	4	11	1	14	2	10	4	15	5	2	6		
11	4	21	10	5	5	11	5	2	6	17	1		
12	5	8	6	17	1	12	5	13	8	11	3		
13	5	19	3	8	4	13	6	0	10	5	5		
14	6	6	0	0	0	14	6	12	0	0	0		
15	6	16	8	11	3	15	6	23	1	14	2		
16	7	3	5	2	6	16	7	10	13	8	4		
17	7	14	1	14	2	17	7	21	5	2	6		
18	8	0	10	5	5	18	8	8	6	17	1		
19	8	11	6	17	1	19	8	19	8	11	3		
20	8	22	3	8	4	20	9	6	10	5	5		
30	13	9	5	2	6	30	13	22	3	8	4		
40	17	20	6	17	1	40	18	13	8	11	3		
50	22	7	8	11	3	50	23	5	1	14	2		
60	26	18	10	5	5	60	27	20	6	17	1		
70	31	6	0	0	0	70	32	12	0	0	0		
80	35	17	1	14	2	80	37	3	5	2	6		
90	40	4	3	8	4	90	41	18	10	5	5		
100	44	15	5	2	6	100	46	10	3	8	4		

48. The WEAVER's COMPANION.

27 Hundred.

Yds.	Sp.	Hr.	Sc.	Th.	Sv.
1	10	11	11	6	17
2	28	0	23	1	14
3	3	1	10	8	11
4	4	11	22	0	3
5	5	12	9	10	5
6	6	2	21	15	2
7	7	3	9	0	0
8	8	13	12	0	17
9	9	4	8	1	14
10	10	4	19	8	11
11	11	5	7	3	8
12	12	5	18	10	5
13	13	6	6	5	2
14	14	6	18	10	0
15	15	7	5	6	17
16	16	7	17	0	14
17	17	8	4	8	11
18	18	8	16	3	8
19	19	9	3	10	5
20	20	9	15	5	2
30	30	14	11	1	14
40	40	19	6	10	5
50	50	24	2	6	17
60	60	28	22	0	3
70	70	33	18	10	5
80	80	38	13	8	11
90	90	43	9	5	2
100	100	48	5	1	14

28 Hundred.

Yds.	Sp.	Hr.	Sc.	Th.	Sv.
1	11	10	12	0	10
2	2	1	0	12	0
3	3	11	12	0	1
4	4	2	10	8	10
5	5	12	12	0	0
6	6	3	0	0	0
7	7	3	12	0	0
8	8	14	0	10	0
9	9	4	12	0	0
10	10	5	1	0	0
11	11	5	12	10	0
12	12	6	0	0	0
13	13	6	12	0	0
14	14	7	0	0	0
15	15	7	12	0	0
16	16	8	0	0	0
17	17	8	12	10	0
18	18	9	0	0	0
19	19	9	12	10	0
20	20	10	0	0	0
30	30	15	0	0	0
40	40	20	0	0	0
50	50	25	0	0	0
60	60	30	0	0	0
70	70	35	0	0	0
80	80	40	0	0	0
90	90	45	0	0	0
100	100	50	0	0	0

It you have more than six Heers of Yarn add any two numbers together, which will make the number you want. For Example,

EXPLANATION of the Second TABLE.

THIS Table shews how much Warp any number of Heers, or Cuts, of a ten, eleven, or twelve-quarter Reel will give to one Yard. Upon the head of the page is marked the length of the Reel. The page is divided into three parts, and each part into four columns; the first two columns of each part contains the number of Yarn, beginning at one Cut, and advancing by one Cut, till it come to six Heers; the other two columns contain the Warp that any number of Heers or Cuts will give. Upon the head of the columns, H. stands for Heers, C. for Cuts, W. for Warps, and T. for Threads.

If you would know how much Warp any number of Heers, or Cuts will give, look on the head of the page for the length of the Reel, then look below the Reel for the number of Heers or Cuts, and in the same line you will find the Warp that they give. For *Example*, If you would know how much Warp 4 Heers of a ten-quarter Reel will give, look on the head of the page for ten quarters, then look in the first column, and you will find 4 Heers, and in the same line you will find 46 Warp and 13 Threads.

If you have more than six Heers of Yarn add any two numbers together, which will make the number you want. For *Example*, If you would know how much Warp 7 Heers of a ten-quarter Reel will give, first take the Warp that 6 Heers will give, which is 70 Warp, then take that which 1 Heer will give, which is 11 Warp, and 13 Threads; which added together makes 81 Warp, and 13 Threads.

The WEAVER's COMPANION.

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10 Quarters.				11 Quarters.				12 Quarters.			
H.	C.	W.	T.	H.	C.	W.	T.	H.	C.	W.	T.
0	1	5	10	0	1	6	8	0	1	7	0
1	0	11	13	1	0	12	16	1	0	14	0
1	1	17	10	1	1	19	5	1	1	21	0
2	0	23	6	2	0	25	13	2	0	28	0
2	1	29	3	2	1	32	1	2	1	35	0
3	0	35	0	3	0	38	10	3	0	42	0
3	1	40	16	3	1	44	18	3	1	49	0
4	0	46	13	4	0	51	6	4	0	56	0
4	1	52	10	4	1	57	5	4	1	63	0
5	0	58	6	5	0	64	3	5	0	70	0
5	1	64	3	5	1	70	1	5	1	77	0
6	0	70	0	6	0	77	0	6	0	84	0

If you would know how much Yarn is in a pound, when a Spindle is any certain weight, look in the first two columns for the weight of the Spindle, and in the same line you will find how much Yarn is in a pound. For Example, If you would know how much Yarn is in a pound-weight, when a Spindle weighs 10 Oz. 8 Dr. look in the

columns contain the quantity of Yarn that is in a pound, when a Spindle is any certain weight. Upon the head of the columns Oz. stands for Ounces, Dr. for Drains, Sp. for Spindles, Hr. for Hertz, Sc. for Scores, and Th. for Threads.

come to thirty-two ounces; the other four

EXPLANATION of the Third TABLE.

THIS Table shews how much Yarn is in a pound, when a Spyndle is any certain weight. The page is divided into two parts, and each part into six columns; the first two columns of each part contains the weight of the Spyndle of Yarn, beginning at four ounces, and advancing by four drams, till it come to eight ounces; then advancing by eight drams, till it come to sixteen ounces; then advancing by one ounce, till it come to thirty-two ounces; the other four columns contain the quantity of Yarn that is in a pound, when a Spyndle is any certain weight. Upon the head of the columns Oz. stands for Ounces, Dr. for Drams, Sp. for Spyndles, Hr. for Heers, Sc. for Scores, and Th. for Threads.

If you would know how much Yarn is in a pound, when a Spyndle is any certain weight, look in the first two columns for the weight of the Spyndle, and in the same line you will find how much Yarn is in a pound-weight. *For Example,* If you would know how much Yarn is in a pound-weight, when a Spyndle weighs 10 Oz. 8 Dr. look in the

first two columns and you will find 10 Oz. 8 Dr. and in the same line you will find 1 Sp. 12 Hr. 6 Sc. 17 Th. which is the Yarn in a pound-weight.

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Wt. of Yarn in the						Wt. of Yarn in the					
the Sp.		Pound Weight.				the Sp.		Pound Weight.			
Oz.	Dr.	Sp.	Hr.	Sc.	Th.	Oz.	Dr.	Sp.	Hr.	Sc.	Th.
4	0	4	0	0	0	12	8	1	6	8	12
4	4	3	18	4	4	13	0	1	5	6	9
4	8	3	13	4	0	13	8	1	4	5	6
4	12	3	8	10	2	14	0	1	3	5	2
5	0	3	4	9	12	14	8	1	2	5	15
5	4	3	1	1	14	15	0	1	1	7	4
5	8	2	21	9	16	15	8	1	0	9	5
5	12	2	18	9	7	16	0	1	0	0	0
6	0	2	16	0	0	17	0	0	22	7	1
6	4	2	13	5	5	18	0	0	21	4	0
6	8	2	11	0	18	19	0	0	20	2	10
6	12	2	8	10	13	20	0	0	19	2	8
7	0	2	6	10	5	21	0	0	18	3	8
7	4	2	4	11	11	22	0	9	17	5	9
7	8	2	3	2	8	23	0	0	16	8	6
7	12	2	1	6	11	24	0	0	16	0	0
8	0	2	0	0	0	25	0	0	15	4	6
8	8	1	21	2	2	26	0	0	14	9	4
9	0	1	18	8	0	27	0	0	14	2	13
9	8	1	16	5	1	28	0	0	13	8	11
10	0	1	14	4	16	29	0	0	13	2	17
10	8	1	12	6	17	30	0	0	12	9	12
11	0	1	10	10	18	31	0	0	12	4	12
11	8	1	9	4	13	32	0	0	12	0	0
12	0	1	8	0	0						

EXPLANATION of the Fourth TABLE.

THIS Table shews how to Sett, or Caam, several kinds of cloth. Upon the head of each page is marked the name of the cloth. Every page is divided into two parts, and each part into five columns; the first column of each part contains the number of the Reed, the next two columns contain the weight of the Warp, and the last two columns the weight of the Woof. Upon the head of the columns Hun. stands for Hundreds, Oz. for Ounces, and Dr. for Drams.

If you would know how to Sett any kind of cloth, look on the head of the pages for the name of the cloth, then look in the first column for the number of the Reed, and in the same line you will find the weight of the Warp, and Woof. For *Example*, If you would know the weight of Yarn that will work in a 14 Hundred Reed for Shirt-Linen, look on the heads of the pages for Shirt-Linen, then look in the first column and you will find 14 Hundred, and in the same line you will find the Warp 3 Ounces, and the Woof 2 Ounces and 8 Drams.

If this table be rightly understood, it may serve for a rule by which you may sett any other

other kind of cloth. For *Example*, Dornic may be sett a little thronger than Diaper, and woofed in proportion.

But in the setting of every kind of raised work, respect must be had to the figure; for some figures will require to be thicker sett than others.

SHIRT-LINEN.					IRISH-LINEN.				
Reed on Ell.	Warp.	Weight of the Hank.	Woof.	Weight of the Hank.	Reed on 40 Inches.	Warp.	Weight of the Hank.	Woof.	Weight of the Hank.
Hun.	Oz.	Dr.	Oz.	Dr.	Hun.	Oz.	Dr.	Oz.	Dr.
8	9	6	7	12	8	11	0	9	6
9	7	6	6	12	9	8	10	7	16
10	6	0	5	10	10	7	10	6	10
11	5	10	4	12	11	5	12	5	10
12	4	12	3	7	12	4	13	4	12
13	3	8	2	15	13	3	12	3	8
14	3	10	2	8	14	3	8	3	0
15	2	10	2	3	15	3	12	2	10
16	2	5	1	15	16	2	12	2	5
17	2	1	1	11	17	2	7	2	1
18	1	13	1	8	18	2	2	1	13
19	1	10	1	6	19	1	15	1	10
20	1	8	1	4	20	1	12	1	8

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HOLLAND.					TWEELING.				
Reed on 40 Inches.	Weight of the Hank.	Weight of the Hank.	Weight of the Hank.	Weight of the Hank.	Reed on Ell.	Weight of the Hank.	Weight of the Hank.	Weight of the Hank.	Weight of the Hank.
Reed.	Warp.	Woof.	Reed.	Warp.	Woof.	Reed.	Warp.	Woof.	Reed.
Hun.	Oz.	Dr.	Oz.	Dr.	Hun.	Oz.	Dr.	Oz.	Dr.
10	8	0	6	8	6	14	0	14	0
11	6	10	5	6	7	10	4	10	4
12	5	8	4	8	8	8	0	8	0
13	4	11	3	12	9	6	4	6	4
14	4	0	3	4	10	5	2	5	2
15	3	9	2	14	11	4	4	4	4
16	3	2	2	8	12	3	8	3	8
17	2	12	2	4	13	3	0	3	0
18	2	7	2	0	14	2	9	2	9
19	2	3	1	12	15	2	4	2	4
20	2	0	1	10	16	2	0	2	0
21	1	11	1	6	17	1	11	1	6
22	1	6	1	2	18	1	6	1	2

SILESIA.						PLAIN LAWN.					
Reed on Ell.	Weight of the Hank.		Weight of the Hank.			Reed on Ell.	Weight of the Hank.		Weight of the Hank.		
Reed.	Warp.	Woof.	Reed.	Warp.	Woof.	Reed.	Warp.	Woof.	Reed.	Warp.	Woof.
Hun.	Oz.	Dr.	Oz.	Dr.		Hun.	Oz.	Dr.	Oz.	Dr.	
7	8	0	7	0		7	4	0	3	8	
8	6	2	5	6		8	3	1	2	11	
9	4	13	4	4		9	2	6	2	2	
10	3	15	3	7		10	1	15	1	11	
11	3	4	2	12		11	1	10	1	6	
12	2	12	2	6		12	1	5	1	3	
13	2	5	2	9		13	1	2	1	0	
14	2	0	1	12		14	1	0	0	14	

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BED-TYKE.

Reed on Ell.	Warp.	Weight of the Hank.	Reed on Ell.	Warp.	Weight of the Hank.
Hun.	Oz.	Dr.	Hun.	Oz.	Dr.
6	16	0	6	16	0
7	11	12	7	11	12
8	9	0	8	9	0
9	7	2	9	7	2
10	5	12	10	5	12
11	4	12	11	4	12
12	4	0	12	4	0

DIAPER.

Reed on Ell.	Warp.	Weight of the Hank.	Reed on Ell.	Warp.	Weight of the Hank.
Hun.	Oz.	Dr.	Hun.	Oz.	Dr.
6	11	0	6	11	0
7	8	2	7	8	5
8	6	4	8	6	10
9	5	0	9	5	7
10	4	10	10	4	9
11	3	4	11	3	6
12	2	12	12	2	8

EXPLANATION of the Fifth TABLE.

THIS Table shews how much Warp any number of Bouts or Gangs will give, run with any number of Runners. Upon the head of each page is marked the number of Runners, beginning at one Runner, and advancing by one, till it come to seventy-two Runners. Every page is divided into three parts, and each part into four columns; the first column of each part contains the number of Bouts, beginning at one Bout, and advancing by one, till it come to thirty Bouts; the other three columns contain the Warp that the Bouts will give. Upon the head of the columns B. stands for Bouts, H. for Hundreds, W. for Warps, and T. for Threads.

If you would know how much Warp any number of Bouts will give, run with any number of Runners, look on the heads of the pages for the number of Runners, where-with the Bouts were run, then look in the first column for the number of Bouts, and in the same line you will find the Warp that they give. For *Example*, If you would know how much Warp 15 Bouts will give, run with 50 Runners, look on the heads of the pages for 50 Runners, then look in the first column,

column, and you will find 15 Bouts, and in the same line you will find 7 Hundred, 2 Warps, and 10 Threads.

If you have more than thirty Bouts, add any two numbers together which will make the number you want. For *Example*, If you would know how much Warp 34 Bouts will give, run with 63 Runners, look on the head of the pages for 63 Runners, and in the first column you will find 30 Bouts, and in the same line you will find 18 H. 4 W. 10 T. then look in the same line with 4 Bouts, and you will find 2 H. 2 W. 12 T. which added together makes 21 Hundred, 2 Warps, and 2 Threads.

If you have more than seventy-two Runners, add any two numbers together which will make the number you want. For *Example*, If you would know how much Warp 18 Bouts will give, run with 79 Runners, first take the Warp that 18 Bouts gives, run with 72 Runners, which is 12 H. 4 W. 16 T. then take the Warp that 18 Bouts gives, run with 7 Runners, which is 1 H. 1 W. 6 T. which added together makes 14 Hundred, 1 Warp, and 2 Threads.

If you would know how many Bouts it will take to give any number of Warp, look
on

on the heads of the pages for the number of Runners that you have, then look below for the number of Warp you want, and in the first column you will find the number of Bouts that will give that Warp. For Example, If you would know how many Bouts run with 48 Runners, it will take to give 10 Hundred, 2 Warps, 16 Threads, look on the heads of the pages for 48 Runners, then look below, and you will find 10 Hundred, 2 Warps, 16 Threads, in the same line with 22 Bouts; which shews that it will take 22 Bouts, to give that number of Warp.

If you do not find the Warp exactly which you want, take the number of Bouts which gives less and nearest to it, and add as many threads as you want.

0	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
1	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
2	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
3	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
4	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
5	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
6	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
7	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
8	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
9	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
10	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99

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1 Runner.				2 Runners.				3 Runners.			
B.	H.	W.	T.	B.	H.	W.	T.	B.	H.	W.	T.
1	0	0	0	1	0	0	0	1	0	0	0
2	0	0	0	2	0	0	0	2	0	0	0
3	0	0	0	3	0	0	0	3	0	0	0
4	0	0	0	4	0	0	0	4	0	0	0
5	0	0	0	5	0	0	0	5	0	0	0
6	0	0	0	6	0	0	0	6	0	0	0
7	0	0	0	7	0	0	0	7	0	0	0
8	0	0	0	8	0	0	0	8	0	0	0
9	0	0	0	9	0	0	0	9	0	0	0
10	0	0	0	10	0	0	0	10	0	0	0
11	0	0	0	11	0	0	0	11	0	0	0
12	0	0	0	12	0	0	0	12	0	0	0
13	0	0	0	13	0	0	0	13	0	0	0
14	0	0	0	14	0	0	0	14	0	0	0
15	0	0	0	15	0	0	0	15	0	0	0
16	0	0	0	16	0	0	0	16	0	0	0
17	0	0	0	17	0	0	0	17	0	0	0
18	0	0	0	18	0	0	0	18	0	0	0
19	0	0	0	19	0	0	0	19	0	0	0
20	0	0	0	20	0	0	0	20	0	0	0
21	0	0	0	21	0	0	0	21	0	0	0
22	0	0	0	22	0	0	0	22	0	0	0
23	0	0	0	23	0	0	0	23	0	0	0
24	0	0	0	24	0	0	0	24	0	0	0
25	0	0	0	25	0	0	0	25	0	0	0
26	0	0	0	26	0	0	0	26	0	0	0
27	0	0	0	27	0	0	0	27	0	0	0
28	0	0	0	28	0	0	0	28	0	0	0
29	0	0	0	29	0	0	0	29	0	0	0
30	0	0	0	30	0	0	0	30	0	0	0

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4 Runners.				5 Runners.				6 Runners.			
B.	H.	W.	T.	B.	H.	W.	T.	B.	H.	W.	T.
1	0	0	0	1	0	0	0	1	0	0	0
2	0	0	0	2	0	0	0	2	0	0	0
3	0	0	0	3	0	0	0	3	0	0	0
4	0	0	0	4	0	0	0	4	0	0	0
5	0	0	0	5	0	0	0	5	0	0	0
6	0	0	0	6	0	0	0	6	0	0	0
7	0	0	0	7	0	0	0	7	0	0	0
8	0	0	0	8	0	0	0	8	0	0	0
9	0	0	0	9	0	0	0	9	0	0	0
10	0	0	0	10	0	0	0	10	0	0	0
11	0	0	0	11	0	0	0	11	0	0	0
12	0	0	0	12	0	0	0	12	0	0	0
13	0	0	0	13	0	0	0	13	0	0	0
14	0	0	0	14	0	0	0	14	0	0	0
15	0	0	0	15	0	0	0	15	0	0	0
16	0	0	0	16	0	0	0	16	0	0	0
17	0	0	0	17	0	0	0	17	0	0	0
18	0	0	0	18	0	0	0	18	0	0	0
19	0	0	0	19	0	0	0	19	0	0	0
20	0	0	0	20	0	0	0	20	0	0	0
21	0	0	0	21	0	0	0	21	0	0	0
22	0	0	0	22	0	0	0	22	0	0	0
23	0	0	0	23	0	0	0	23	0	0	0
24	0	0	0	24	0	0	0	24	0	0	0
25	0	0	0	25	0	0	0	25	0	0	0
26	0	0	0	26	0	0	0	26	0	0	0
27	0	0	0	27	0	0	0	27	0	0	0
28	0	0	0	28	0	0	0	28	0	0	0
29	0	0	0	29	0	0	0	29	0	0	0
30	0	0	0	30	0	0	0	30	0	0	0

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7 Runners.				8 Runners.				9 Runners.			
B.	H.	W.	T.	B.	H.	W.	T.	B.	H.	W.	T.
1	0	0	7	1	0	0	8	1	0	0	9
2	0	0	14	2	0	0	16	2	0	0	18
3	0	1	1	3	0	1	4	3	0	1	7
4	0	1	8	4	0	1	12	4	0	1	16
5	0	1	15	5	0	2	0	5	0	2	5
6	0	2	2	6	0	2	8	6	0	2	14
7	0	2	9	7	0	2	16	7	0	3	3
8	0	2	16	8	0	3	4	8	0	3	12
9	0	3	3	9	0	3	12	9	0	4	1
10	0	3	10	10	0	4	0	10	0	4	10
11	0	3	17	11	0	4	8	11	0	4	19
12	0	4	4	12	0	4	16	12	1	0	8
13	0	4	11	13	1	0	4	13	1	0	17
14	0	4	18	14	1	0	12	14	1	1	6
15	1	0	5	15	1	1	0	15	1	1	15
16	1	0	12	16	1	1	8	16	1	2	4
17	1	0	19	17	1	1	16	17	1	2	13
18	1	1	6	18	1	2	4	18	1	3	2
19	1	1	13	19	1	2	12	19	1	3	11
20	1	2	0	20	1	3	0	20	1	4	0
21	1	2	7	21	1	3	8	21	1	4	9
22	1	2	14	22	1	3	16	22	1	4	18
23	1	3	1	23	1	4	4	23	2	0	7
24	1	3	8	24	1	4	12	24	2	0	16
25	1	3	15	25	2	0	0	25	2	1	5
26	1	4	2	26	2	0	8	26	2	1	14
27	1	4	9	27	2	0	16	27	2	1	23
28	1	4	16	28	2	1	4	28	2	1	32
29	2	0	3	29	2	1	12	29	2	1	41
30	2	0	10	30	2	1	20	30	2	1	50

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	10 Runners.				12 Runners.				12 Runners.			
T.	B.	H.	W.	T.	B.	H.	W.	T.	B.	H.	W.	T.
9	1	0	0	10	1	0	0	11	1	0	0	12
18	2	0	1	0	2	0	1	2	2	0	1	4
7	3	0	1	10	3	0	1	13	3	0	1	16
16	4	0	2	0	4	0	2	4	4	0	2	8
5	5	0	2	10	5	0	2	15	5	0	3	0
14	6	0	3	0	6	0	3	6	6	0	3	12
3	7	0	3	10	7	0	3	17	7	0	4	4
12	8	0	4	0	8	0	4	8	8	0	4	16
1	9	0	4	10	9	0	4	19	9	1	0	8
10	10	1	0	0	10	1	0	10	10	1	1	0
19	11	1	0	10	11	1	1	1	11	1	1	12
8	12	1	1	0	12	1	1	12	12	1	2	4
17	13	1	1	10	13	1	2	3	13	1	2	16
6	14	1	2	0	14	1	2	14	14	1	3	8
15	15	1	2	10	15	1	3	5	15	1	4	0
4	16	1	3	0	16	1	3	16	16	1	4	12
13	17	1	3	10	17	1	4	7	17	2	0	4
2	18	1	4	0	18	1	4	18	18	2	0	16
11	19	1	4	10	19	2	0	9	19	2	1	8
0	20	2	0	0	20	2	1	0	20	2	2	0
9	21	2	0	10	21	2	1	11	21	2	2	12
18	22	2	1	0	22	2	2	2	22	2	3	4
7	23	2	1	10	23	2	2	13	23	2	3	16
16	24	2	2	0	24	2	3	4	24	2	4	8
5	25	2	2	10	25	2	3	15	25	3	0	0
14	26	2	3	0	26	2	4	6	26	3	0	12
3	27	2	3	10	27	2	4	17	27	3	1	4
12	28	2	4	0	28	3	0	8	28	3	1	16
1	29	2	4	10	29	3	0	19	29	3	2	8
10	30	3	0	0	30	3	1	10	30	3	3	0

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13 Runners.				14 Runners.				15 Runners.			
B.	H.	W.	T.	B.	H.	W.	T.	B.	H.	W.	T.
1	0	0	13	1	0	0	14	1	0	0	15
2	0	1	6	2	0	1	8	2	0	1	10
3	0	1	19	3	0	2	2	3	0	2	5
4	0	2	12	4	0	2	16	4	0	3	0
5	0	3	5	5	0	3	10	5	0	3	15
6	0	3	18	6	0	4	4	6	0	4	10
7	0	4	11	7	0	4	18	7	1	0	5
8	1	0	4	8	1	0	12	8	1	1	0
9	1	0	17	9	1	1	6	9	1	1	15
10	1	1	10	10	1	2	0	10	1	2	10
11	1	2	3	11	1	2	14	11	1	3	5
12	1	2	16	12	1	3	8	12	1	4	0
13	1	3	9	13	1	4	2	13	1	4	15
14	1	4	2	14	1	4	16	14	2	0	10
15	1	4	15	15	2	0	10	15	2	1	5
16	2	0	8	16	2	1	4	16	2	2	0
17	2	1	1	17	2	1	18	17	2	2	15
18	2	1	14	18	2	2	12	18	2	3	10
19	2	2	7	19	2	3	6	19	2	4	5
20	2	3	0	20	2	4	0	20	3	0	0
21	2	3	13	21	2	4	14	21	3	0	15
22	2	4	6	22	3	0	8	22	3	1	10
23	2	4	19	23	3	1	2	23	3	2	5
24	3	0	12	24	3	1	16	24	3	3	0
25	3	1	5	25	3	2	10	25	3	3	15
26	3	1	18	26	3	3	4	26	3	4	10
27	3	2	11	27	3	3	18	27	4	0	5
28	3	3	4	28	3	4	12	28	4	1	0
29	3	3	17	29	4	0	6	29	4	1	15
30	3	4	10	30	4	1	0	30	4	2	10

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16 Runners.				17 Runners.				18 Runners.			
B.	H.	W.	T.	B.	H.	W.	T.	B.	H.	W.	T.
1	0	0	16	1	0	0	17	1	0	0	18
2	0	1	12	2	0	1	14	2	0	1	16
3	0	2	8	3	0	2	11	3	0	2	14
4	0	3	4	4	0	3	8	4	0	3	12
5	0	4	0	5	0	4	5	5	0	4	10
6	0	4	16	6	1	0	2	6	1	0	8
7	1	0	12	7	1	0	19	7	1	1	6
8	1	1	8	8	1	1	18	8	1	2	4
9	1	2	4	9	1	2	15	9	1	3	2
10	1	3	0	10	1	3	10	10	1	4	0
11	1	3	16	11	1	4	7	11	1	4	18
12	1	4	12	12	2	0	4	12	2	0	16
13	2	0	8	13	2	1	1	13	2	1	14
14	2	1	4	14	2	1	18	14	2	2	12
15	2	2	0	15	2	2	15	15	2	3	10
16	2	2	16	16	2	3	12	16	2	4	8
17	2	3	12	17	2	4	9	17	3	0	6
18	2	4	8	18	3	0	6	18	3	1	4
19	3	0	4	19	3	1	3	19	3	2	2
20	3	1	0	20	3	2	0	20	3	3	0
21	3	1	16	21	3	2	17	21	3	3	18
22	3	2	12	22	3	3	14	22	3	4	16
23	3	3	8	23	3	4	11	23	4	0	14
24	3	4	4	24	4	0	8	24	4	1	12
25	4	0	0	25	4	1	5	25	4	2	10
26	4	0	16	26	4	2	2	26	4	3	8
27	4	1	12	27	4	2	19	27	4	4	6
28	4	2	8	28	4	3	16	28	5	0	4
29	4	3	4	29	4	4	13	29	5	1	2
30	4	4	0	30	5	0	10	30	5	2	0

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19 Runners.				20 Runners.				22 Runners.			
B.	H.	W.	T.	B.	H.	W.	T.	B.	H.	W.	T.
1	0	0	19	1	0	1	0	1	0	1	1
2	0	1	18	2	0	2	0	2	0	2	2
3	0	2	17	3	0	3	0	3	0	3	3
4	0	3	16	4	0	4	0	4	0	4	4
5	0	4	15	5	1	0	0	5	1	0	5
6	1	0	14	6	1	1	0	6	1	1	6
7	1	1	13	7	1	2	0	7	1	2	7
8	1	2	12	8	1	3	0	8	1	3	8
9	1	3	11	9	1	4	0	9	1	4	9
10	1	4	10	10	2	0	0	10	2	0	10
11	2	0	9	11	2	1	0	11	2	1	11
12	2	1	8	12	2	2	0	12	2	2	12
13	2	2	7	13	2	3	0	13	2	3	13
14	2	3	6	14	2	4	0	14	2	4	14
15	2	4	5	15	3	0	0	15	3	0	15
16	3	0	4	16	3	1	0	16	3	1	16
17	3	1	3	17	3	2	0	17	3	2	17
18	3	2	2	18	3	3	0	18	3	3	18
19	3	3	1	19	3	4	0	19	3	4	19
20	3	4	0	20	4	0	0	20	4	1	0
21	3	4	19	21	4	1	0	21	4	2	1
22	4	0	18	22	4	2	0	22	4	3	2
23	4	1	17	23	4	3	0	23	4	4	3
24	4	2	16	24	4	4	0	24	5	0	4
25	4	3	15	25	5	0	0	25	5	1	5
26	4	4	14	26	5	1	0	26	5	2	6
27	5	0	13	27	5	2	0	27	5	3	7
28	5	1	12	28	5	3	0	28	5	4	8
29	5	2	11	29	5	4	0	29	6	0	9
30	5	3	10	30	6	0	0	30	6	1	10

22 Runners.	23 Runners.	24 Runners.
B. H. W. T.	B. H. W. T.	B. H. W. T.
1 1 0 0 1 1 2	0 1 1 0 0 1 1 3	2 1 1 0 0 1 1 4
2 2 0 0 2 2 4	3 2 2 0 0 2 2 6	0 2 2 0 0 2 2 8
3 3 0 0 3 3 6	4 3 3 0 0 3 3 9	2 3 3 0 0 3 3 12
4 4 0 0 4 4 8	5 4 4 0 0 4 4 12	0 4 4 0 0 4 4 16
5 5 1 1 1 1 10	6 5 5 1 1 1 15	2 5 5 1 1 1 20
6 6 1 1 1 1 12	7 6 6 1 1 1 18	0 6 6 1 1 2 0 4
7 7 1 1 2 1 14	8 7 7 1 1 3 21	2 7 7 1 1 3 28
8 8 0 1 2 3 16	9 8 8 0 1 4 24	0 8 8 0 1 4 32
9 9 1 2 2 4 18	10 9 9 1 2 5 27	2 9 9 1 2 5 36
10 10 2 2 2 1 20	11 10 10 2 2 1 30	0 10 10 2 2 2 0 6
11 11 2 2 2 2 12	12 11 11 2 2 2 33	2 11 11 2 2 3 14
12 12 2 2 3 2 14	13 12 12 2 2 3 36	0 12 12 2 2 4 28
13 13 2 2 4 2 16	14 13 13 2 2 4 39	2 13 13 2 2 5 32
14 14 2 3 2 0 18	15 14 14 2 3 2 42	0 14 14 2 3 6 16
15 15 3 3 1 1 20	16 15 15 3 3 2 45	2 15 15 3 3 7 20
16 16 3 3 2 1 22	17 16 16 3 3 3 48	0 16 16 3 3 8 24
17 17 3 3 3 1 24	18 17 17 3 3 4 51	2 17 17 3 3 9 28
18 18 3 4 1 1 16	19 18 18 3 4 1 54	0 18 18 3 4 10 32
19 19 4 2 0 1 18	20 19 19 4 2 1 57	2 19 19 4 2 11 36
20 20 4 2 2 0 20	21 20 20 4 2 3 60	0 20 20 4 2 12 40
21 21 4 2 3 1 22	22 21 21 4 2 4 63	2 21 21 4 2 13 44
22 22 4 2 4 1 24	23 22 22 4 2 5 66	0 22 22 4 2 14 48
23 23 5 0 0 1 26	24 23 23 5 0 1 69	2 23 23 5 2 15 52
24 24 5 0 1 1 28	25 24 24 5 0 2 72	0 24 24 5 0 3 56
25 25 5 0 2 1 30	26 25 25 5 0 3 75	2 25 25 5 0 4 60
26 26 5 0 3 1 32	27 26 26 5 0 4 78	0 26 26 5 0 5 64
27 27 5 1 4 1 34	28 27 27 5 1 5 81	2 27 27 5 0 6 68
28 28 6 0 0 1 36	29 28 28 6 0 2 84	0 28 28 6 0 7 72
29 29 6 0 1 1 38	30 29 29 6 0 3 87	2 29 29 6 0 8 76
30 30 6 0 3 0 40	31 30 30 6 0 4 90	0 30 30 6 0 9 80

25 Runners.				26 Runners.				27 Runners.							
B.	H.	W.	T.	B.	H.	W.	T.	B.	H.	W.	T.				
1	0	0	1	15	1	0	0	1	16	1	0	0	1	17	
2	0	0	2	10	2	0	0	2	12	2	0	0	2	14	
3	0	0	3	15	3	0	0	3	18	3	0	0	4	1	
4	1	0	0	10	4	1	0	0	14	4	1	0	0	8	
5	1	1	1	15	5	0	1	1	10	5	0	1	1	15	
6	1	1	2	10	6	1	1	2	16	6	1	1	3	0	2
7	1	1	3	15	7	1	1	4	12	7	1	1	4	9	
8	2	0	0	10	8	2	1	0	18	8	2	1	0	16	
9	2	1	0	15	9	2	1	1	14	9	2	1	2	0	3
10	2	2	1	10	10	2	2	3	0	10	2	2	3	10	
11	2	2	3	15	11	2	2	4	16	11	2	2	4	17	
12	3	0	0	10	12	3	0	1	12	12	3	1	1	14	
13	3	1	1	15	13	3	1	1	18	13	3	1	2	11	
14	3	2	1	10	14	3	2	3	14	14	3	2	3	18	
15	3	3	1	15	15	3	3	4	10	15	4	0	0	15	
16	4	0	0	10	16	4	0	0	16	16	4	1	1	12	
17	4	1	1	15	17	4	2	2	12	17	4	2	1	19	
18	4	2	1	10	18	4	3	1	18	18	4	3	1	16	
19	4	3	1	15	19	4	4	1	14	19	5	1	0	13	
20	5	0	0	10	20	5	1	0	0	20	5	2	0	0	
21	5	1	1	15	21	5	2	1	16	21	5	3	1	7	
22	5	2	1	10	22	5	3	1	12	22	5	4	1	14	
23	5	3	1	15	23	5	4	1	18	23	6	1	1	1	
24	6	0	0	10	24	6	1	1	14	24	6	2	1	8	
25	6	1	1	15	25	6	2	1	10	25	6	3	1	15	
26	6	2	1	10	26	6	3	1	16	26	7	0	0	2	
27	6	3	1	15	27	7	0	1	12	27	7	1	1	9	
28	7	0	0	10	28	7	1	1	18	28	7	2	1	16	
29	7	1	1	15	29	7	2	1	14	29	7	3	1	3	
30	7	2	1	10	30	7	3	1	0	30	8	0	0	10	

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	28 Runners.				29 Runners.				30 Runners.			
T.	B.	H.	W.	T.	B.	H.	W.	T.	B.	H.	W.	T.
7	1	0	1	8	1	0	1	9	1	0	1	10
14	2	0	2	16	2	0	2	18	2	0	3	0
1	3	0	4	4	3	0	4	7	3	0	4	10
8	4	1	0	12	4	1	0	16	4	1	1	0
15	5	1	2	0	5	1	2	5	5	1	2	10
2	6	1	3	8	6	1	3	14	6	1	4	0
9	7	1	4	16	7	2	0	3	7	2	0	10
16	8	2	1	4	8	2	1	12	8	2	2	0
3	9	2	2	12	9	2	3	1	9	2	3	10
10	10	2	4	0	10	2	4	10	10	3	0	0
17	11	3	0	8	11	3	0	19	11	3	1	10
4	12	3	1	16	12	3	2	8	12	3	3	0
11	13	3	3	4	13	3	3	17	13	3	4	10
18	14	3	4	12	14	4	0	6	14	4	1	0
5	15	4	1	0	15	4	1	15	15	4	2	10
12	16	4	2	8	16	4	3	4	16	4	4	0
19	17	4	3	16	17	4	4	13	17	5	0	10
6	18	5	0	4	18	5	1	2	18	5	2	0
13	19	5	1	12	19	5	2	11	19	5	3	10
0	20	5	3	0	20	5	4	0	20	6	0	0
17	21	5	4	8	21	6	0	9	21	6	1	10
14	22	6	0	16	22	6	1	18	22	6	3	0
1	23	6	2	4	23	6	3	7	23	6	4	10
8	24	6	3	12	24	6	4	16	24	7	1	0
15	25	7	0	0	25	7	1	5	25	7	2	10
2	26	7	1	8	26	7	2	14	26	7	4	0
9	27	7	2	16	27	7	4	3	27	8	0	10
16	28	7	4	4	28	8	0	12	28	8	2	0
3	29	8	0	12	29	8	2	1	29	8	3	10
10	30	8	2	0	30	8	3	10	30	9	0	0

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31 Runners.				32 Runners.				33 Runners.			
B.	H.	W.	T.	B.	H.	W.	T.	B.	H.	W.	T.
1	0	1	11	1	0	1	12	1	0	1	13
2	0	3	2	2	0	3	4	2	0	3	6
3	0	4	13	3	0	4	16	3	0	4	19
4	1	1	4	4	1	1	8	4	1	1	12
5	1	2	15	5	1	3	0	5	1	3	5
6	1	4	6	6	1	4	12	6	1	4	18
7	2	0	17	7	2	1	4	7	2	1	11
8	2	2	8	8	2	2	16	8	2	3	4
9	2	3	19	9	2	4	8	9	2	4	17
10	3	0	10	10	3	1	0	10	3	1	10
11	3	2	1	11	3	2	12	11	3	3	3
12	3	3	12	12	3	4	4	12	3	4	16
13	4	0	3	13	4	0	16	13	4	1	9
14	4	1	14	14	4	2	8	14	4	3	2
15	4	3	5	15	4	4	0	15	4	4	15
16	4	4	16	16	5	0	12	16	5	1	8
17	5	1	7	17	5	2	4	17	5	3	1
18	5	2	18	18	5	3	16	18	5	4	14
19	5	4	9	19	6	0	8	19	6	1	7
20	6	1	0	20	6	2	0	20	6	3	0
21	6	2	11	21	6	3	12	21	6	4	13
22	6	4	2	22	7	0	4	22	7	1	6
23	7	0	13	23	7	1	16	23	7	2	19
24	7	2	4	24	7	3	8	24	7	4	12
25	7	3	15	25	8	0	0	25	8	1	5
26	8	0	6	26	8	1	12	26	8	2	18
27	8	1	17	27	8	3	4	27	8	4	11
28	8	3	8	28	8	4	16	28	9	1	4
29	8	4	19	29	9	1	8	29	9	2	17
30	9	1	10	30	9	3	0	30	9	4	10

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34 Runners.

B. H. W. T.

1	0	0	1	14
2	0	0	3	8
3	1	0	2	
4	1	1	16	
5	1	3	10	
6	2	0	4	
7	2	1	18	
8	2	3	12	
9	3	0	6	
10	3	2	0	
11	3	3	14	
12	4	0	8	
13	4	2	2	
14	4	3	16	
15	5	0	10	
16	5	2	4	
17	5	3	18	
18	6	0	12	
19	6	2	6	
20	6	4	0	
21	7	0	14	
22	7	2	8	
23	7	4	2	
24	8	0	16	
25	8	2	10	
26	8	4	4	
27	9	0	18	
28	9	2	12	
29	9	4	6	
30	10	1	0	

35 Runners.

B. H. W. T.

1	0	0	1	15
2	0	0	3	10
3	1	0	5	
4	1	2	0	
5	1	3	15	
6	2	0	10	
7	2	2	5	
8	2	4	0	
9	3	0	15	
10	3	2	10	
11	3	4	5	
12	4	1	0	
13	4	2	15	
14	4	4	10	
15	5	1	5	
16	5	3	0	
17	5	4	15	
18	6	1	10	
19	6	3	5	
20	7	0	0	
21	7	1	15	
22	7	3	10	
23	8	0	5	
24	8	2	0	
25	8	3	15	
26	9	0	10	
27	9	2	5	
28	9	4	0	
29	10	0	15	
30	10	2	10	

36 Runners.

B. H. W. T.

1	0	0	1	16
2	0	3	12	
3	1	0	8	
4	1	2	4	
5	1	4	0	
6	2	0	16	
7	2	2	12	
8	2	4	8	
9	3	1	4	
10	3	3	0	
11	3	4	16	
12	4	1	12	
13	4	3	8	
14	5	0	4	
15	5	2	0	
16	5	3	16	
17	6	0	12	
18	6	2	8	
19	6	4	4	
20	7	1	0	
21	7	2	16	
22	7	4	12	
23	8	1	8	
24	8	3	4	
25	9	0	0	
26	9	1	16	
27	9	3	12	
28	10	0	8	
29	10	2	4	
30	10	4	0	

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37 Runners.				38 Runners.				39 Runners.			
B.	H.	W.	T.	B.	H.	W.	T.	B.	H.	W.	T.
1	0	1	17	1	0	1	18	1	0	1	19
2	0	3	14	2	0	3	16	2	0	3	18
3	1	0	11	3	1	0	14	3	1	0	17
4	1	2	8	4	1	2	12	4	1	2	16
5	1	4	5	5	1	4	10	5	1	4	15
6	2	1	2	6	2	1	8	6	2	1	14
7	2	2	19	7	2	3	6	7	2	3	13
8	2	4	16	8	3	0	4	8	3	0	12
9	3	1	13	9	3	2	2	9	3	2	11
10	3	3	10	10	3	4	0	10	3	4	10
11	4	0	7	11	4	0	18	11	4	1	9
12	4	2	4	12	4	2	16	12	4	3	8
13	4	4	1	13	4	4	14	13	5	0	7
14	5	0	18	14	5	1	12	14	5	2	6
15	5	2	15	15	5	3	10	15	5	4	5
16	5	4	12	16	6	0	8	16	6	1	4
17	6	1	9	17	6	2	6	17	6	3	3
18	6	3	6	18	6	4	4	18	7	0	2
19	7	0	3	19	7	1	2	19	7	2	1
20	7	2	0	20	7	3	0	20	7	4	0
21	7	3	17	21	7	4	18	21	8	0	19
22	8	0	14	22	8	1	16	22	8	2	18
23	8	2	11	23	8	3	14	23	8	4	17
24	8	4	8	24	9	0	12	24	9	1	16
25	9	1	5	25	9	2	10	25	9	3	15
26	9	3	2	26	9	4	8	26	10	0	14
27	9	4	19	27	10	1	6	27	10	2	13
28	10	1	16	28	10	3	4	28	10	4	12
29	10	3	13	29	11	0	2	29	11	1	11
30	11	0	10	30	11	2	0	30	11	3	10

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40 Runners.				41 Runners.				42 Runners.			
B.	H.	W.	T.	B.	H.	W.	T.	B.	H.	W.	T.
1	0	2	0	1	0	2	1	1	0	2	2
2	0	4	0	2	0	4	2	2	0	4	4
3	1	1	0	3	1	1	3	3	1	1	6
4	1	3	0	4	1	3	4	4	1	3	8
5	2	0	0	5	2	0	5	5	2	0	10
6	2	2	0	6	2	2	6	6	2	2	12
7	2	4	0	7	2	4	7	7	2	4	14
8	3	1	0	8	3	1	8	8	3	1	16
9	3	3	0	9	3	3	9	9	3	3	18
10	4	0	0	10	4	0	10	10	4	1	0
11	4	2	0	11	4	2	11	11	4	3	2
12	4	4	0	12	4	4	12	12	5	0	4
13	5	1	0	13	5	1	13	13	5	2	6
14	5	3	0	14	5	3	14	14	5	4	8
15	6	0	0	15	6	0	15	15	6	1	10
16	6	2	0	16	6	2	16	16	6	3	12
17	6	4	0	17	6	4	17	17	7	0	14
18	7	1	0	18	7	1	18	18	7	2	16
19	7	3	0	19	7	3	9	19	7	4	18
20	8	0	0	20	8	1	0	20	8	2	0
21	8	2	0	21	8	3	1	21	8	4	2
22	8	4	0	22	9	0	2	22	9	1	4
23	9	1	0	23	9	2	3	23	9	3	6
24	9	3	0	24	9	4	4	24	10	0	8
25	10	0	0	25	10	1	5	25	10	2	10
26	10	2	0	26	10	3	6	26	10	4	12
27	10	4	0	27	11	0	7	27	11	1	14
28	11	1	0	28	11	2	8	28	11	3	16
29	11	3	0	29	11	4	9	29	12	0	18
30	12	0	0	30	12	1	10	30	12	3	0

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43 Runners.

B.	H.	W.	T.
1	0	2	3
2	0	4	6
3	1	1	9
4	1	3	12
5	2	0	15
6	2	2	18
7	3	0	1
8	3	2	4
9	3	4	7
10	4	1	10
11	4	3	13
12	5	0	16
13	5	2	19
14	6	0	2
15	6	2	5
16	6	4	8
17	7	1	11
18	7	3	14
19	8	0	17
20	8	3	0
21	9	0	3
22	9	2	6
23	9	4	9
24	10	1	12
25	10	3	15
26	11	0	18
27	11	3	1
28	12	0	4
29	12	2	7
30	12	4	10

44 Runners.

B.	H.	W.	T.
1	0	2	4
2	0	4	8
3	1	1	12
4	1	3	16
5	2	1	0
6	2	3	4
7	3	0	8
8	3	2	12
9	3	4	16
10	4	2	0
11	4	4	4
12	5	1	8
13	5	3	12
14	6	0	16
15	6	3	0
16	7	0	4
17	7	2	8
18	7	4	12
19	8	1	16
20	8	4	0
21	9	1	4
22	9	3	8
23	10	0	12
24	10	2	16
25	11	0	0
26	11	2	4
27	11	4	8
28	12	1	12
29	12	3	16
30	13	1	0

45 Runners.

B.	H.	W.	T.
1	0	2	5
2	0	4	10
3	1	1	15
4	1	4	0
5	2	1	5
6	2	3	10
7	3	0	15
8	3	3	0
9	4	0	5
10	4	2	10
11	4	4	15
12	5	2	0
13	5	4	5
14	6	1	10
15	6	3	15
16	7	1	0
17	7	3	5
18	8	0	10
19	8	2	15
20	9	0	0
21	9	2	5
22	9	4	10
23	10	1	15
24	10	4	0
25	11	1	5
26	11	3	10
27	12	0	15
28	12	3	0
29	13	0	5
30	13	2	10

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46 Runners.				47 Runners.				48 Runners.			
B.	H.	W.	T.	B.	H.	W.	T.	B.	H.	W.	T.
1	0	2	16	1	0	2	7	1	0	2	8
2	0	4	12	2	0	4	14	2	0	4	16
3	1	1	18	3	1	2	1	3	1	2	4
4	1	4	4	4	1	4	8	4	1	4	12
5	2	1	10	5	2	1	15	5	2	2	0
6	2	3	16	6	2	4	2	6	2	4	8
7	3	1	2	7	3	1	9	7	3	1	16
8	3	3	8	8	3	3	16	8	3	4	4
9	4	0	14	9	4	1	3	9	4	1	12
10	4	3	0	10	4	3	10	10	4	4	0
11	5	0	16	11	5	0	17	11	5	1	8
12	5	2	12	12	5	3	4	12	5	3	16
13	5	4	18	13	6	0	11	13	6	1	4
14	6	2	4	14	6	2	18	14	6	3	12
15	6	4	10	15	7	0	5	15	7	1	0
16	7	1	16	16	7	2	12	16	7	3	8
17	7	4	2	17	7	4	19	17	8	0	16
18	8	1	8	18	8	2	6	18	8	3	4
19	8	3	14	19	8	4	13	19	9	0	12
20	9	1	0	20	9	2	0	20	9	3	0
21	9	3	6	21	9	4	7	21	10	0	8
22	10	0	12	22	10	1	14	22	10	2	16
23	10	2	18	23	10	4	1	23	11	0	4
24	11	0	4	24	11	1	8	24	11	2	12
25	11	2	10	25	11	3	15	25	12	0	0
26	11	4	16	26	12	1	2	26	12	2	8
27	12	2	2	27	12	3	9	27	12	4	16
28	12	4	8	28	13	0	16	28	13	2	4
29	13	1	14	29	13	3	3	29	13	4	12
30	13	4	0	30	14	0	10	30	14	2	0

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49 Runners.				50 Runners.				51 Runners.			
B.	H.	W.	T.	B.	H.	W.	T.	B.	H.	W.	T.
1	0	2	9	1	0	2	10	1	0	2	11
2	0	4	18	2	1	0	0	2	1	0	2
3	1	2	7	3	1	2	10	3	1	2	13
4	1	4	16	4	2	0	0	4	2	0	4
5	2	2	5	5	2	2	10	5	2	2	15
6	2	4	14	6	3	0	0	6	3	0	6
7	3	2	3	7	3	2	10	7	3	2	17
8	3	4	12	8	4	0	0	8	4	0	8
9	4	2	1	9	4	2	10	9	4	2	19
10	4	4	10	10	5	0	0	10	5	0	10
11	5	1	19	11	5	2	10	11	5	3	1
12	5	4	8	12	6	0	0	12	6	0	12
13	6	1	17	13	6	2	10	13	6	3	3
14	6	4	6	14	7	0	0	14	7	0	14
15	7	1	15	15	7	2	10	15	7	3	5
16	7	4	4	16	8	0	0	16	8	0	16
17	8	1	13	17	8	2	10	17	8	3	7
18	8	4	2	18	9	0	0	18	9	0	18
19	9	1	11	19	9	2	10	19	9	3	9
20	9	4	0	20	10	0	0	20	10	1	0
21	10	1	9	21	10	2	10	21	10	3	11
22	10	3	18	22	11	0	0	22	11	1	2
23	11	1	7	23	11	2	10	23	11	3	13
24	11	3	16	24	12	0	0	24	12	1	4
25	12	1	5	25	12	2	10	25	12	3	15
26	12	3	14	26	13	0	0	26	13	1	6
27	13	1	3	27	13	2	10	27	13	3	17
28	13	3	12	28	14	0	0	28	14	1	8
29	14	1	1	29	14	2	10	29	14	3	19
30	14	3	10	30	15	0	0	30	15	1	10

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52 Runners.				53 Runners.				54 Runners.			
B.	H.	W.	T.	B.	H.	W.	T.	B.	H.	W.	T.
1	0	2	12	1	0	2	13	1	0	2	14
2	1	0	4	2	1	0	6	2	1	0	8
3	1	2	16	3	1	2	19	3	1	3	2
4	2	0	8	4	2	0	12	4	2	0	16
5	2	3	0	5	2	3	5	5	2	3	10
6	3	0	12	6	3	0	18	6	3	1	4
7	3	3	4	7	3	3	11	7	3	3	18
8	4	0	16	8	4	1	4	8	4	1	12
9	4	3	8	9	4	3	17	9	4	4	6
10	5	1	0	10	5	1	10	10	5	2	0
11	5	3	12	11	5	4	3	11	5	4	14
12	6	1	4	12	6	1	16	12	6	2	8
13	6	3	16	13	6	4	9	13	7	0	2
14	7	1	8	14	7	2	2	14	7	2	16
15	7	4	0	15	7	4	15	15	8	0	10
16	8	1	12	16	8	2	8	16	8	3	4
17	8	4	4	17	9	0	1	17	9	0	18
18	9	1	16	18	9	2	14	18	9	3	12
19	9	4	8	19	10	0	7	19	10	1	6
20	10	2	0	20	10	3	0	20	10	4	0
21	10	4	12	21	11	0	13	21	11	1	14
22	11	2	4	22	11	3	6	22	11	4	8
23	11	4	16	23	12	0	19	23	12	2	2
24	12	2	8	24	12	3	12	24	12	4	16
25	13	0	0	25	13	1	5	25	13	2	10
26	13	2	12	26	13	3	18	26	14	0	4
27	14	0	4	27	14	1	11	27	14	2	18
28	14	2	16	28	14	4	4	28	15	0	12
29	15	0	8	29	15	1	17	29	15	3	6
30	15	3	0	30	15	4	10	30	16	1	0

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55 Runners.				56 Runners.				57 Runners.			
B.	H.	W.	T.	B.	H.	W.	T.	B.	H.	W.	T.
1	0	2	15	1	0	2	16	1	0	2	17
2	1	0	10	2	1	0	12	2	1	0	14
3	1	3	5	3	1	3	8	3	1	3	11
4	2	1	0	4	2	1	4	4	2	1	8
5	2	3	15	5	2	4	0	5	2	4	5
6	3	1	10	6	3	1	16	6	3	2	2
7	3	4	5	7	3	4	12	7	3	4	19
8	4	2	0	8	4	2	8	8	4	2	16
9	4	4	15	9	5	0	4	9	5	0	13
10	5	2	10	10	5	3	0	10	5	3	10
11	6	0	5	11	6	0	16	11	6	1	7
12	6	3	0	12	6	3	12	12	6	4	4
13	7	1	15	13	7	1	8	13	7	2	1
14	7	3	10	14	7	4	4	14	7	4	18
15	8	1	5	15	8	2	0	15	8	2	15
16	8	4	0	16	8	4	16	16	9	0	12
17	9	1	15	17	9	2	12	17	9	3	9
18	9	4	10	18	10	0	8	18	10	1	6
19	10	2	5	19	10	3	4	19	10	4	3
20	11	0	0	20	11	1	0	20	11	2	0
21	11	2	15	21	11	3	16	21	11	4	17
22	12	0	10	22	12	1	12	22	12	2	14
23	12	3	5	23	12	4	8	23	13	0	11
24	13	1	0	24	13	2	4	24	13	3	8
25	13	3	15	25	14	0	0	25	14	1	5
26	14	1	10	26	14	2	16	26	14	4	2
27	14	4	5	27	15	0	12	27	15	1	19
28	15	2	0	28	15	3	8	28	15	4	16
29	15	4	15	29	16	1	4	29	16	2	13
30	16	2	10	30	16	4	0	30	17	0	10

58 Runners.				59 Runners.				60 Runners.			
B.	H.	W.	T.	B.	H.	W.	T.	B.	H.	W.	T.
1	0	2	18	1	0	2	19	1	0	3	0
2	1	0	16	2	1	0	18	2	1	1	0
3	1	3	14	3	1	3	17	3	1	4	0
4	2	1	12	4	2	1	16	4	2	2	0
5	2	4	10	5	2	4	15	5	3	0	0
6	3	2	8	6	3	2	14	6	3	3	0
7	4	0	6	7	4	0	13	7	4	1	0
8	4	3	4	8	4	3	12	8	4	4	0
9	5	1	2	9	5	1	11	9	5	2	0
10	5	4	0	10	5	4	10	10	6	0	0
11	6	1	18	11	6	2	9	11	6	3	0
12	6	4	16	12	7	0	8	12	7	1	0
13	7	2	14	13	7	3	7	13	7	4	0
14	8	0	12	14	8	1	6	14	8	2	0
15	8	3	10	15	8	4	5	15	9	0	0
16	9	1	8	16	9	2	4	16	9	3	0
17	9	4	6	17	10	0	3	17	10	1	0
18	10	2	4	18	10	3	2	18	10	4	0
19	11	0	2	19	11	1	1	19	11	2	0
20	11	3	0	20	11	4	0	20	12	0	0
21	12	0	18	21	12	1	19	21	12	3	0
22	12	3	16	22	12	4	18	22	13	1	0
23	13	1	14	23	13	2	17	23	13	4	0
24	13	4	12	24	14	0	16	24	14	2	0
25	14	2	10	25	14	3	15	25	15	0	0
26	15	0	8	26	15	1	14	26	15	3	0
27	15	3	6	27	15	4	13	27	16	1	0
28	16	1	4	28	16	2	12	28	16	4	0
29	16	4	2	29	17	0	11	29	17	2	0
30	17	2	0	30	17	3	10	30	18	0	0

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61 Runners.				62 Runners.				63 Runners.			
B.	H.	W.	T.	B.	H.	W.	T.	B.	H.	W.	T.
1	0	3	1	1	0	3	2	1	0	3	3
2	1	1	2	2	1	1	4	2	1	1	6
3	1	4	3	3	1	4	6	3	1	4	9
4	2	2	4	4	2	2	8	4	2	2	12
5	3	0	5	5	3	0	10	5	3	0	15
6	3	3	6	6	3	3	12	6	3	3	18
7	4	1	7	7	4	1	14	7	4	2	1
8	4	4	8	8	4	4	16	8	5	0	4
9	5	2	9	9	5	2	18	9	5	3	7
10	6	0	10	10	6	1	0	10	6	1	10
11	6	3	11	11	6	4	2	11	6	4	13
12	7	1	12	12	7	2	4	12	7	2	16
13	7	4	13	13	8	0	6	13	8	0	19
14	8	2	14	14	8	3	8	14	8	4	2
15	9	0	15	15	9	1	10	15	9	2	5
16	9	3	16	16	9	4	12	16	10	0	8
17	10	1	17	17	10	2	14	17	10	3	11
18	10	4	18	18	11	0	16	18	11	1	14
19	11	2	19	19	11	3	18	19	11	4	17
20	12	1	0	20	12	2	0	20	12	3	0
21	12	4	1	21	13	0	2	21	13	1	3
22	13	2	2	22	13	3	4	22	13	4	6
23	14	0	3	23	14	1	6	23	14	2	9
24	14	3	4	24	14	4	8	24	15	0	12
25	15	1	5	25	15	2	10	25	15	3	15
26	15	4	6	26	16	0	12	26	16	1	18
27	16	2	7	27	16	3	14	27	17	0	1
28	17	0	8	28	17	1	16	28	17	3	4
29	17	3	9	29	17	4	18	29	18	1	7
30	18	1	10	30	18	3	0	30	18	4	10

64 Runners.				65 Runners.				66 Runners.			
B.	H.	W.	T.	B.	H.	W.	T.	B.	H.	W.	T.
1	0	3	4	1	0	3	5	1	0	3	6
2	1	1	8	2	1	1	10	2	1	1	12
3	1	4	12	3	1	4	15	3	1	4	18
4	2	2	16	4	2	3	0	4	2	3	4
5	3	1	0	5	3	1	5	5	3	1	10
6	3	4	4	6	3	4	10	6	3	4	16
7	4	2	8	7	4	2	15	7	4	3	2
8	5	0	12	8	5	1	0	8	5	1	8
9	5	3	16	9	5	4	5	9	5	4	14
10	6	2	0	10	6	2	10	10	6	3	0
11	7	0	4	11	7	0	15	11	7	1	6
12	7	3	8	12	7	4	0	12	7	4	12
13	8	1	12	13	8	2	5	13	8	2	18
14	8	4	16	14	9	0	10	14	9	1	4
15	9	3	0	15	9	3	15	15	9	4	10
16	10	1	4	16	10	2	0	16	10	2	16
17	10	4	8	17	11	0	5	17	11	1	2
18	11	2	12	18	11	3	10	18	11	4	8
19	12	0	16	19	12	1	15	19	12	2	14
20	12	4	0	20	13	0	0	20	13	1	0
21	13	2	4	21	13	3	5	21	13	4	6
22	14	0	8	22	14	1	10	22	14	2	12
23	14	3	12	23	14	4	15	23	15	0	18
24	15	1	16	24	15	3	0	24	15	4	4
25	16	0	0	25	16	1	5	25	16	2	10
26	16	3	4	26	16	4	10	26	17	0	16
27	17	1	8	27	17	2	15	27	17	4	2
28	17	4	12	28	18	1	0	28	18	2	8
29	18	2	16	29	18	4	5	29	19	0	14
30	19	1	0	30	19	2	10	30	19	4	0

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67 Runners.				68 Runners.				69 Runners.			
B.	H.	W.	T.	B.	H.	W.	T.	B.	H.	W.	T.
1	0	3	7	1	0	3	8	1	0	3	9
2	1	1	14	2	1	1	16	2	1	1	18
3	2	0	1	3	2	0	4	3	2	0	7
4	2	3	8	4	2	3	12	4	2	3	16
5	3	1	15	5	3	2	0	5	3	2	5
6	4	0	2	6	4	0	8	6	4	0	14
7	4	3	9	7	4	3	16	7	4	4	3
8	5	1	16	8	5	2	4	8	5	2	12
9	6	0	3	9	6	0	12	9	6	1	1
10	6	3	10	10	6	4	0	10	6	4	10
11	7	1	17	11	7	2	8	11	7	2	19
12	8	0	4	12	8	0	16	12	8	1	8
13	8	3	11	13	8	4	4	13	8	4	17
14	9	1	18	14	9	2	12	14	9	3	6
15	10	0	5	15	10	1	0	15	10	1	15
16	10	3	12	16	10	4	8	16	11	0	4
17	11	1	19	17	11	2	16	17	11	3	13
18	12	0	6	18	12	1	4	18	12	2	2
19	12	3	13	19	12	4	12	19	13	0	11
20	13	2	0	20	13	3	0	20	13	4	0
21	14	0	7	21	14	1	8	21	14	2	9
22	14	3	14	22	14	4	16	22	15	0	18
23	15	2	1	23	15	3	4	23	15	4	7
24	16	0	8	24	16	1	12	24	16	2	16
25	16	3	15	25	17	0	0	25	17	1	5
26	17	2	2	26	17	3	8	26	17	4	14
27	18	0	9	27	18	1	16	27	18	3	3
28	18	3	16	28	19	0	4	28	19	1	12
29	19	2	3	29	19	3	12	29	20	0	1
30	20	0	10	30	20	2	0	30	20	3	10

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70 Runners.				71 Runners.				72 Runners.			
B.	H.	W.	T.	B.	H.	W.	T.	B.	H.	W.	T.
1	0	3	10	1	0	3	11	1	0	3	12
2	1	2	0	2	1	2	2	2	1	2	4
3	2	0	10	3	2	0	13	3	2	0	16
4	2	4	0	4	2	4	4	4	2	4	8
5	3	2	10	5	3	2	15	5	3	3	0
6	4	1	0	6	4	1	6	6	4	1	12
7	4	4	10	7	4	4	17	7	5	0	4
8	5	3	0	8	5	3	8	8	5	3	16
9	6	1	10	9	6	1	19	9	6	2	8
10	7	0	5	10	7	0	10	10	7	1	0
11	7	3	10	11	7	4	1	11	7	4	12
12	8	2	0	12	8	2	12	12	8	3	4
13	9	0	10	13	9	1	3	13	9	1	16
14	9	4	0	14	9	4	14	14	10	0	8
15	10	2	10	15	10	3	5	15	10	4	0
16	11	1	0	16	11	1	16	16	11	2	12
17	11	4	10	17	12	0	7	17	12	1	4
18	12	3	0	18	12	3	18	18	12	4	16
19	13	1	10	19	13	2	9	19	13	3	8
20	14	0	0	20	14	1	0	20	14	2	0
21	14	3	10	21	14	4	11	21	15	0	12
22	15	2	0	22	15	3	2	22	15	4	4
23	16	0	10	23	16	1	13	23	16	2	16
24	16	4	0	24	17	0	4	24	17	1	8
25	17	2	10	25	17	3	15	25	18	0	0
26	18	1	0	26	18	2	6	26	18	3	12
27	18	4	10	27	19	0	17	27	19	2	4
28	19	3	0	28	19	4	8	28	20	0	16
29	20	1	10	29	20	2	19	29	20	4	8
30	21	0	0	30	21	1	10	30	21	3	0

EXPLANATION of the Sixth TABLE.

THIS Table shews how many Pins of an Evener any number of Bouts will fill, run with any number of Legs. Upon the head of the page is marked the number of Legs, beginning at one Leg, (or the Bout undivided) and advancing by one Leg, till it come to five Legs. The page is divided into five parts, and each part into two columns; the first column of each part contains the number of Bouts, beginning at one Bout, and advancing by one, till it come to thirty Bouts; the second column of each part contains the number of Pins that the Bouts will fill. Upon the head of the columns B. stands for Bouts, and P. for Pins.

If you would know how many Pins of an Evener any number of Bouts will fill, run with any number of Legs, look on the head of the page for the number of Legs where-with the Bouts were run, then look in the first column for the number of Bouts, and in the same line you will find the Pins that they fill. For *Example*, If you would know how many Pins of an Evener 15 Bouts will fill, run with 4 Legs, look on the head of the page for 4 Legs, then look in the first column

column

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column and you will find 15 Bouts, and in the same line you will find 120 Pins.

If you have more than thirty Bouts, add any two numbers together which will make the number you want. For *Example*, If you have 35 Bouts run with 4 Legs, first take the Pins that 30 Bouts fills, which is 240 Pins, then take the Pins that five Bouts fills, which is 40 Pins, which added together makes 280 Pins, or 28 Hundred.

If your Web have any odd Legs besides even Bouts, reason will tell you, that whatever odd Legs there is, they will fill that number of Pins more than the even Bouts.

001	01	02	03	04	05	06	07	08	09
011	11	21	31	41	51	61	71	81	91
021	21	01	11	00	11	00	11	00	11
031	31	02	12	01	21	00	11	00	11
041	41	03	21	02	31	01	41	00	11
051	51	04	31	03	41	02	51	01	21
061	61	05	41	04	51	03	61	02	31
071	71	06	51	05	61	04	71	03	41
081	81	07	61	06	71	05	81	04	51
091	91	08	71	07	81	06	91	05	61
101	01	09	81	08	91	07	01	06	71
111	11	10	91	10	01	09	11	07	81
121	21	11	01	11	10	01	21	08	91
131	31	12	02	12	11	02	31	09	01
141	41	13	03	13	12	03	41	10	11
151	51	14	04	14	13	04	51	11	21
161	61	15	05	15	14	05	61	12	31
171	71	16	06	16	15	06	71	13	41
181	81	17	07	17	16	07	81	14	51
191	91	18	08	18	17	08	91	15	61
201	01	19	09	19	18	09	01	16	71
211	11	20	10	20	19	10	11	17	81
221	21	21	11	21	20	11	21	18	91
231	31	22	12	22	21	12	31	19	01
241	41	23	13	23	22	13	41	20	11
251	51	24	14	24	23	14	51	21	21
261	61	25	15	25	24	15	61	22	31
271	71	26	16	26	25	16	71	23	41
281	81	27	17	27	26	17	81	24	51
291	91	28	18	28	27	18	91	25	61
301	01	29	19	29	28	19	01	26	71
311	11	30	20	30	29	20	11	27	81
321	21	31	21	31	30	21	21	28	91
331	31	32	22	32	31	22	31	29	01
341	41	33	23	33	32	23	41	30	11
351	51	34	24	34	33	24	51	31	21
361	61	35	25	35	34	25	61	32	31
371	71	36	26	36	35	26	71	33	41
381	81	37	27	37	36	27	81	34	51
391	91	38	28	38	37	28	91	35	61
401	01	39	29	39	38	29	01	36	71
411	11	40	30	40	39	30	11	37	81
421	21	41	31	41	40	31	21	38	91
431	31	42	32	42	41	32	31	39	01
441	41	43	33	43	42	33	41	40	11
451	51	44	34	44	43	34	51	41	21
461	61	45	35	45	44	35	61	42	31
471	71	46	36	46	45	36	71	43	41
481	81	47	37	47	46	37	81	44	51
491	91	48	38	48	47	38	91	45	61
501	01	49	39	49	48	39	01	46	71
511	11	50	40	50	49	40	11	47	81
521	21	51	41	51	50	41	21	48	91
531	31	52	42	52	51	42	31	49	01
541	41	53	43	53	52	43	41	50	11
551	51	54	44	54	53	44	51	51	21
561	61	55	45	55	54	45	61	52	31
571	71	56	46	56	55	46	71	53	41
581	81	57	47	57	56	47	81	54	51
591	91	58	48	58	57	48	91	55	61
601	01	59	49	59	58	49	01	56	71
611	11	60	50	60	59	50	11	57	81
621	21	61	51	61	60	51	21	58	91
631	31	62	52	62	61	52	31	59	01
641	41	63	53	63	62	53	41	60	11
651	51	64	54	64	63	54	51	61	21
661	61	65	55	65	64	55	61	62	31
671	71	66	56	66	65	56	71	63	41
681	81	67	57	67	66	57	81	64	51
691	91	68	58	68	67	58	91	65	61
701	01	69	59	69	68	59	01	66	71
711	11	70	60	70	69	60	11	67	81
721	21	71	61	71	70	61	21	68	91
731	31	72	62	72	71	62	31	69	01
741	41	73	63	73	72	63	41	70	11
751	51	74	64	74	73	64	51	71	21
761	61	75	65	75	74	65	61	72	31
771	71	76	66	76	75	66	71	73	41
781	81	77	67	77	76	67	81	74	51
791	91	78	68	78	77	68	91	75	61
801	01	79	69	79	78	69	01	76	71
811	11	80	70	80	79	70	11	77	81
821	21	81	71	81	80	71	21	78	91
831	31	82	72	82	81	72	31	79	01
841	41	83	73	83	82	73	41	80	11
851	51	84	74	84	83	74	51	81	21
861	61	85	75	85	84	75	61	82	31
871	71	86	76	86	85	76	71	83	41
881	81	87	77	87	86	77	81	84	51
891	91	88	78	88	87	78	91	85	61
901	01	89	79	89	88	79	01	86	71
911	11	90	80	90	89	80	11	87	81
921	21	91	81	91	90	81	21	88	91
931	31	92	82	92	91	82	31	89	01
941	41	93	83	93	92	83	41	90	11
951	51	94	84	94	93	84	51	91	21
961	61	95	85	95	94	85	61	92	31
971	71	96	86	96	95	86	71	93	41
981	81	97	87	97	96	87	81	94	51
991	91	98	88	98	97	88	91	95	61
1001	01	99	89	99	98	89	01	96	71

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1 Leg.	2 Legs.	3 Legs.	4 Legs.	5 Legs.
B. P.	B. P.	B. P.	B. P.	B. P.
1 2	1 4	1 6	1 8	1 10
2 4	2 8	2 12	2 16	2 20
3 6	3 12	3 18	3 24	3 30
4 8	4 16	4 24	4 32	4 40
5 10	5 20	5 30	5 40	5 50
6 12	6 24	6 36	6 48	6 60
7 14	7 28	7 42	7 56	7 70
8 16	8 32	8 48	8 64	8 80
9 18	9 36	9 54	9 72	9 90
10 20	10 40	10 60	10 80	10 100
11 22	11 44	11 66	11 88	11 110
12 24	12 48	12 72	12 96	12 120
13 26	13 52	13 78	13 104	13 130
14 28	14 56	14 84	14 112	14 140
15 30	15 60	15 90	15 120	15 150
16 32	16 64	16 96	16 128	16 160
17 34	17 68	17 102	17 136	17 170
18 36	18 72	18 108	18 144	18 180
19 38	19 76	19 114	19 152	19 190
20 40	20 80	20 120	20 160	20 200
21 42	21 84	21 126	21 168	21 210
22 44	22 88	22 132	22 176	22 220
23 46	23 92	23 138	23 184	23 230
24 48	24 96	24 144	24 192	24 240
25 50	25 100	25 150	25 200	25 250
26 52	26 104	26 156	26 208	26 260
27 54	27 108	27 162	27 216	27 270
28 66	28 112	28 168	28 224	28 280
29 58	29 116	29 174	29 232	29 290
30 60	30 120	30 180	30 240	30 300

EXPLANATION of the Seventh TABLE.

THIS Table shews when an Evener is marked on Ell, how many Pins are upon any number of Nails. Upon the head of the page is marked the different breadths upon which the Eveners are counted. The page is divided into nine columns; the first column of the page contains the Evener upon Ell, beginning at fifty Pins, and advancing by ten Pins, till it come to two hundred Pins; the other eight columns contain the number of Pins that are upon whatever breadth is marked at the head thereof. Upon the head of the columns P. stands for Pins.

If you would know what an Evener marked on Ell, is upon any number of Nails, look on the head of the page for the number of Nails, then look in the first column for what the Evener is on Ell, and in the same line, below the number of Nails, you will find the number of Pins. For *Example*, If you would know how much 160 Pins on Ell, is on 14 Nails, look on the head of the page for 14 Nails, then look in the first column and you will find 160 Pins, and in the same line you will find 140 Pins below 14 Nails.

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If you would know what an Evener is on any breadth above Ell, add any two breadths together, which will make that breadth which you want.

If you are to Beam your Web any particular number of Nails in breadth, look on the head of the page for the number of Nails, then look below the number of Nails, for the number of Pins that your Web is to fill, and in the same line you will find in the first column what the Evener is upon Ell. For Example, If your Web is to fill 112 Pins, and is to be beamed 13 Nails, in breadth, look on the head of the page for 13 Nails, and below that you will find 112 Pins, in the same line with 140 Pins (or 14 hundred) upon Ell.

Note, Ten Pins of an Evener make one Hundred; and this Table will count by Hundreds, if you put all the figures that are in each column, except the last figure, in the place of Hundreds, and always put the last figure in the place of the odd Pins.

15 Nails	14 Nails	13 Nails	12 Nails	11 Nails	10 Nails	9 Nails	8 Nails
P.	P.	P.	P.	P.	P.	P.	P.
50	46	43	40	37	34	31	25
60	56	53	48	45	41	37	30
70	65	61	56	52	48	43	35
80	75	70	65	60	55	50	40
90	84	78	72	67	61	56	45
100	93	87	81	75	68	62	50
110	103	96	89	82	75	68	55
120	112	105	97	90	82	75	60
130	121	113	105	97	89	81	65
140	130	121	112	104	96	87	70
150	140	131	121	112	103	93	75
160	150	140	130	120	110	100	80
170	159	148	137	127	116	106	85
180	168	157	146	135	123	112	90
190	178	166	154	142	130	118	95
200	187	175	162	150	137	125	100

marked on Ell, is upon any number of Nails, look on the head of the pages for the number of Nails, then look in the first column for what the Reed is on Ell; and in the same line, below the number of Nails, you will find the number of Splices. For Example: If you would know how much 900 Splices on Ell, is on 14 Nails, look on the head of the pages for 14 Nails, then look in the first column

EXPLANATION of the Eighth TABLE.

THIS Table shews when a Reed is marked on Ell, how many Splits are upon any number of Nails. Upon the head of each page is marked the different breadths upon which the Reeds are counted. Every page is divided into five columns; the first column of each page contains the Reed on Ell, beginning at twenty Splits, and advancing by twenty Splits, till it come to one hundred Splits; then advancing by one hundred Splits, till it come to twenty hundred Splits; the other four columns contain the number of Splits that are upon whatever breadth is marked at the head thereof. Upon the head of the columns Sp. stands for Splits.

If you would know how much a Reed marked on Ell, is upon any number of Nails, look on the head of the pages for the number of Nails, then look in the first column for what the Reed is on Ell; and in the same line, below the number of Nails, you will find the number of Splits. For *Example*, If you would know how much 900 Splits on Ell, is on 14 Nails, look on the head of the pages for 14 Nails, then look in the first column

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column for 900, and in the same line you will find 787 Splits below 14 Nails.

If your Reed have any odd Splits, add the odd Splits to the even Hundreds. For *Example*, If you would know what a Reed 1040 Splits on Ell, is on 14 Nails, look on the head of the pages for 14 Nails, then look in the first column and you will find 1000, and in the same line, below 14 Nails, you will find 875 Splits, then look in the same line with 40 Splits on Ell, and below 14 Nails you will find 35 Splits, which added together makes 910 Splits.

If you would know what a Reed marked on Ell is on any breadth above ell, add any two breadths together which will make that breadth which you want.

1000	875	787	700	612
900	787	700	612	525
800	700	612	525	437
700	612	525	437	350
600	525	437	350	262
500	437	350	262	175
400	350	262	175	87
300	262	175	87	0
200	175	87	0	0
100	87	0	0	0
0	0	0	0	0

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Ell.	15 Nails.	14 Nails.	13 Nails.	12 Nails.
Sp.	Sp.	Sp.	Sp.	Sp.
20	18	17	16	15
40	37	35	32	30
60	56	52	48	45
80	75	70	65	60
100	93	87	81	75
200	187	175	162	150
300	281	262	243	225
400	375	350	325	300
500	468	437	406	375
600	562	525	487	450
700	656	612	568	525
800	750	700	650	600
900	843	787	731	675
1000	937	875	812	750
1100	1031	962	893	825
1200	1125	1050	975	900
1300	1218	1137	1056	975
1400	1312	1225	1137	1050
1500	1406	1312	1218	1125
1600	1500	1400	1300	1200
1700	1593	1487	1381	1275
1800	1687	1575	1462	1350
1900	1781	1662	1543	1425
2000	1875	1750	1625	1500

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Ell.	11 Nails.	10 Nails.	9 Nails.	8 Nails.
Sp.	Sp.	Sp.	Sp.	Sp.
20	13	12	11	10
40	27	25	22	20
60	41	37	33	30
80	55	50	45	40
100	68	62	56	50
1200	137	125	112	100
1300	146	137	125	110
1400	155	146	137	120
1500	164	155	146	130
1600	173	164	155	140
1700	182	173	164	150
1800	191	182	173	160
1900	200	191	182	170
2000	209	200	191	180
2100	218	209	200	190
2200	227	218	209	200
2300	236	227	218	210
2400	245	236	227	220
2500	254	245	236	230
2600	263	254	245	240
2700	272	263	254	250
2800	281	272	263	260
2900	290	281	272	270
3000	299	290	281	280
3100	308	299	290	290
3200	317	308	299	300
3300	326	317	308	310
3400	335	326	317	320
3500	344	335	326	330
3600	353	344	335	340
3700	362	353	344	350
3800	371	362	353	360
3900	380	371	362	370
4000	389	380	371	380
4100	398	389	380	390
4200	407	398	389	400
4300	416	407	398	410
4400	425	416	407	420
4500	434	425	416	430
4600	443	434	425	440
4700	452	443	434	450
4800	461	452	443	460
4900	470	461	452	470
5000	479	470	461	480
5100	488	479	470	490
5200	497	488	479	500
5300	506	497	488	510
5400	515	506	497	520
5500	524	515	506	530
5600	533	524	515	540
5700	542	533	524	550
5800	551	542	533	560
5900	560	551	542	570
6000	569	560	551	580
6100	578	569	560	590
6200	587	578	569	600
6300	596	587	578	610
6400	605	596	587	620
6500	614	605	596	630
6600	623	614	605	640
6700	632	623	614	650
6800	641	632	623	660
6900	650	641	632	670
7000	659	650	641	680
7100	668	659	650	690
7200	677	668	659	700
7300	686	677	668	710
7400	695	686	677	720
7500	704	695	686	730
7600	713	704	695	740
7700	722	713	704	750
7800	731	722	713	760
7900	740	731	722	770
8000	749	740	731	780
8100	758	749	740	790
8200	767	758	749	800
8300	776	767	758	810
8400	785	776	767	820
8500	794	785	776	830
8600	803	794	785	840
8700	812	803	794	850
8800	821	812	803	860
8900	830	821	812	870
9000	839	830	821	880
9100	848	839	830	890
9200	857	848	839	900
9300	866	857	848	910
9400	875	866	857	920
9500	884	875	866	930
9600	893	884	875	940
9700	902	893	884	950
9800	911	902	893	960
9900	920	911	902	970
10000	929	920	911	980
10100	938	929	920	990
10200	947	938	929	1000

If you would know how much of a Road to Warp will fill, with 2 in the Spline, look

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EXPLANATION of the Ninth Table.

THIS Table shews how much of a Reed any number of Warp will fill, with three, four or five in the Split. Upon the head of the page is marked the number of Threads that are in the Split. The page is divided into three parts; and each part into four columns; the first column of each part contains the number of Warp, beginning at one Warp, and advancing by one Warp, till it come to five Warp; then advancing by five Warp, till it come to seventy Warp; the other three columns of each part contain the number of Splits that the Warp will fill. Upon the head of the columns W. stands for Warps, H. for Hundreds, P. for Porters, and S. for Splits.

If you would know how much of a Reed any number of Warp will fill, with three, four, or five in the Split, look on the head of the page for the number of Threads that you are to have in the Split, then look in the first column for the number of Warp, and in the same line you will find the number of Splits that it will fill. For *Example*, If you would know how much of a Reed 50 Warp will fill, with 3 in the Split, look

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on the head of the page for 3 in the Split, then look in the first column, and you will find 50 Warp, and in the same line you will find 6 Hundred, 3 Porters, and 6 Splits.

If you have any odd Warps besides the even fives, first take what the even fives will fill, then take what the odd Warps will fill, and add it together. For *Example*, If you would know how much of a Reed 52 Warp will fill, with 3 in the Split, look on the head of the page for 3 in the Split, then look in the first column and you will find 50 Warp, and in the same line you will find 6 H. 3 P. 6 S.; then look in the same line with 2 Warp, and you will find 1 P. 6 S. which added together makes 6 Hundred, 4 Porters, and 12 Splits.

If you have more than seventy Warp, add any two numbers together which will make the number of Warp that you have. For *Example*, If you would know how much of a Reed 80 Warp will fill, with 3 in the Split, first take that which 70 Warp fills, which is 9 H. 1 P. 13 S. then take that which 10 Warp fills, which is 1 H. 1 P. 13 S. which added together makes 10 Hundred, 3 Porters, and 6 Splits.

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3 Threads.				4 Threads.				5 Threads.			
W.	H.	P.	S.	W.	H.	P.	S.	W.	H.	P.	S.
1	0	0	13	1	0	0	10	1	0	0	8
2	0	1	6	2	0	1	0	2	0	0	16
3	0	2	0	3	0	1	10	3	0	1	4
4	0	2	13	4	0	2	0	4	0	1	12
5	0	3	6	5	0	2	10	5	0	2	0
10	1	1	13	10	1	0	0	10	0	4	0
15	2	0	0	15	1	2	10	15	1	0	0
20	2	3	6	20	2	0	0	20	1	3	0
25	3	1	13	25	2	2	10	25	2	0	0
30	4	0	0	30	3	0	0	30	2	2	0
35	4	3	6	35	3	2	10	35	2	4	0
40	5	1	13	40	4	0	0	40	3	1	10
45	6	0	10	45	4	2	10	45	3	3	0
50	6	3	6	50	5	0	0	50	4	0	0
55	7	1	13	55	5	2	10	55	4	2	0
60	8	0	0	60	6	0	0	60	4	4	0
65	8	3	6	65	6	2	10	65	5	1	0
70	9	1	13	70	7	0	0	70	5	3	0

EXPLANATION of the Tenth TABLE.

THIS Table shews how to sett Cambs, or Heddles to Reeds. Every page is divided into eight columns; the first two columns (marked at the head Camb) contain the number of the Camb; the next two columns (marked at the head Reed) contain the number of the Reed, upon the same breadth; and the other four columns (marked at the head Draughts and Times) contain the number of Draughts and Times that you must draw between settings. In this Table the greatest difference between the Camb and the Reed is only one Hundred, till it come to seven Hundred, and then the greatest difference is two Hundred, till it come to fourteen Hundred. Upon the head of the columns H. stands for Hundreds, P. for Porters, D. for Draughts, and T. for Times.

If you would know how to sett a Camb to a Reed, look in the first two columns for the number of the Camb, then look in the next two columns for the number of the Reed, and in the same line with the Camb and the Reed, you will find the number of Draughts and Times that you must draw between settings. For *Example*, If you are to set

set a 10 Hundred and 4 Porter Camb to an 8 Hundred and 4 Porter Reed, look in the first two columns for a 10 Hundred and 4 Porter Camb, and in the next two columns you will find an 8 Hundred and 4 Porter Reed, and in the same line you will find 4 Draughts 6 Times, and 5 Draughts 4 Times; which shews that you must draw 4 Draughts 6 Times, and set one Draught every Time, and 5 Draughts 4 Times, and set one every Time.

Example 2. If you are to set a 12 Hundred Camb, to a 10 Hundred Reed, look in the first column for a 12 Hundred Camb, and in the first line you will find a 10 Hundred Reed, and in the same line you will find 5 Draughts; which shews that you must draw five Draughts, and set one Draught for every five that you draw.

Note, It makes no matter what breadth you count the Camb and Reed upon; but only you must count them both upon one breadth; and it makes no matter how many Leaves you draw your Web through, if you put a whole Draught into each Split.

The WEAVER'S COMPANION. 103

Camb. has Reed.				Draughts and Times.			
H. T.	P. Q.	H. T.	P. Q.	D. 1	T. H.	D. 1	T. H.
2	1	2	0	10	0	0	0
2	2	2	0	5	0	0	0
2	2	2	1	11	0	0	0
2	3	2	0	3	2	4	1
2	3	2	1	5	1	6	1
2	3	2	2	12	0	0	0
2	4	2	0	2	2	3	2
2	4	2	1	3	1	4	2
2	4	2	2	6	0	0	0
2	4	2	3	13	0	0	0
3	0	2	0	2	0	0	0
3	0	2	1	2	1	3	3
3	0	2	2	4	0	0	0
3	0	2	3	6	1	7	1
3	0	2	4	14	0	0	0
3	1	2	1	2	4	3	1
3	1	2	2	3	0	0	0
3	1	2	3	4	2	5	1
3	1	2	4	7	0	0	0
3	1	3	0	15	0	0	0
3	2	2	2	3	2	2	3
3	2	2	3	3	3	4	1
3	2	2	4	4	1	5	2
3	2	3	0	7	1	8	1
3	2	3	1	16	0	0	0
3	3	2	3	2	2	3	3
3	3	2	4	3	2	4	2
3	3	3	0	5	0	0	0
3	3	3	1	8	0	0	0
3	3	3	2	17	0	0	0

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Camb. Reeds.				Draughts and Times.			
H.	P.	H.	P.	D.	T.H.	D.	T.H.
30	40	20	40	20	12	31	40
30	40	30	00	30	10	40	30
30	40	30	11	51	20	60	10
31	40	30	20	80	10	90	10
31	40	31	30	181	00	00	00
40	00	30	00	30	00	00	00
40	00	30	10	40	00	00	00
40	00	31	20	60	20	50	10
40	00	30	30	90	00	00	00
40	00	30	40	190	00	00	00
40	10	30	10	40	10	30	40
40	10	30	20	40	30	50	10
40	10	30	30	60	00	00	00
40	10	30	40	90	10	100	10
40	10	40	00	200	00	00	00
40	20	30	20	30	30	40	20
40	20	30	30	40	20	50	20
40	20	30	40	60	20	70	10
40	20	40	00	100	00	00	00
40	20	40	10	210	00	00	00
40	30	30	30	30	20	40	30
40	30	30	40	40	10	50	30
40	30	40	00	60	10	70	20
40	30	40	10	100	10	110	10
40	30	40	20	220	00	00	00
40	40	30	40	30	10	40	40
40	40	40	00	50	00	00	00
40	40	40	10	70	00	00	00
40	40	40	20	110	00	00	00
40	40	40	30	230	00	00	00

The WEAVER'S COMPANION. 101

Camb.		Reed.		Draughts and Times.			
H.	P.	H.	P.	D.	T.	D.	T.
5	0	4	0	4	0	0	0
5	0	4	1	5	3	6	1
5	0	4	2	7	2	8	1
5	0	4	3	11	1	12	1
5	0	4	4	24	0	0	0
5	1	4	1	4	4	5	1
5	1	4	2	5	2	6	2
5	1	4	3	7	1	8	2
5	1	4	4	12	0	0	0
5	1	5	0	25	0	0	0
5	2	4	2	4	3	5	2
5	2	4	3	5	1	6	3
5	2	4	4	8	0	0	0
5	2	5	0	12	1	13	1
5	2	5	1	26	0	0	0
5	3	4	3	4	2	5	3
5	3	4	4	6	0	0	0
5	3	5	0	8	2	9	1
5	3	5	1	13	0	0	0
5	3	5	2	27	0	0	0
5	4	4	4	4	1	5	4
5	4	5	0	6	3	7	1
5	4	5	1	8	1	9	2
5	4	5	2	13	1	14	1
5	4	5	3	28	0	0	0
6	0	5	0	5	0	0	0
6	0	5	1	6	2	7	2
6	0	5	2	9	0	0	0
6	0	5	3	14	0	0	0
6	0	5	4	29	0	0	0
			0				

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Camb.		Reed.		Draughts and Times.			
H.	P.	H.	P.	D.	T.	D.	T.
6	1	5	1	5	4	6	1
6	1	5	2	6	1	7	3
6	1	5	3	9	2	10	1
6	1	5	4	14	1	15	1
6	1	6	0	30	0	0	0
6	2	5	2	5	3	6	2
6	2	5	3	7	0	0	0
6	2	5	4	9	1	10	2
6	2	6	0	15	0	0	0
6	2	6	1	31	0	0	0
6	3	5	3	5	2	6	3
6	3	5	4	7	3	8	1
6	3	6	0	10	0	0	0
6	3	6	1	15	1	16	1
6	3	6	2	32	0	0	0
6	4	5	4	5	1	6	4
6	4	6	0	7	2	8	2
6	4	6	1	10	2	11	1
6	4	6	2	16	0	0	0
6	4	6	3	33	0	0	0
7	0	5	0	2	5	3	5
7	0	5	1	2	1	3	8
7	0	5	2	3	5	4	3
7	0	5	3	4	0	0	0
7	0	5	4	4	1	5	5
7	0	6	0	6	0	0	0
7	0	6	1	7	1	8	3
7	0	6	2	10	1	11	2
7	0	6	3	16	1	17	1
7	0	6	4	34	0	0	0

The WEAVER's COMPANION. 107.

Camb.		Reed.		Draughts and Times.			
H.	P.	H.	P.	D.	T.	D.	T.
7	1	5	1	12	4	3	6
7	1	5	2	13	0	0	0
7	1	5	3	13	4	4	4
7	1	5	4	14	6	5	1
7	1	6	0	15	0	0	0
7	1	6	1	16	4	7	1
7	1	6	2	18	0	0	0
7	1	6	3	11	0	0	0
7	1	6	4	17	0	0	0
7	1	7	0	35	0	0	0
7	2	5	2	12	3	3	7
7	2	5	3	13	8	4	1
7	2	5	4	13	3	4	5
7	2	6	0	14	5	5	2
7	2	6	1	15	5	6	1
7	2	6	2	16	3	7	2
7	2	6	3	18	3	9	1
7	2	6	4	11	2	12	1
7	2	7	0	17	1	18	1
7	2	7	1	36	0	0	0
7	3	5	3	12	2	3	8
7	3	5	4	13	7	4	2
7	3	6	0	13	2	4	6
7	3	6	1	14	4	5	3
7	3	6	2	15	4	6	2
7	3	6	3	16	2	7	3
7	3	6	4	18	2	9	2
7	3	7	0	11	1	12	2
7	3	7	1	18	0	0	0
7	3	7	2	37	0	0	0

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Cams		Reed		Draughts and Times.			
H.	P.	H.	P.	D.	T.	D.	T.
7	4	5	4	12	1	13	19
7	4	6	0	13	6	14	13
7	4	6	1	13	1	14	17
7	4	6	2	14	3	15	14
7	4	6	3	15	3	16	13
7	4	6	4	16	1	17	14
7	4	7	0	18	1	19	13
7	4	7	1	12	0	10	10
7	4	7	2	18	1	19	11
7	4	7	3	38	10	10	10
8	0	6	0	3	20	10	10
8	0	6	1	4	5	14	14
8	0	6	2	4	0	10	10
8	0	6	3	4	2	15	15
8	0	6	4	5	2	16	14
8	0	7	0	7	0	10	10
8	0	7	1	9	0	10	10
8	0	7	2	12	2	13	11
8	0	7	3	19	10	10	10
8	0	7	4	39	10	10	10
8	1	6	1	3	9	14	11
8	1	6	2	3	4	14	15
8	1	6	3	4	7	15	11
8	1	6	4	4	1	15	16
8	1	7	0	5	1	16	15
8	1	7	1	7	4	18	11
8	1	7	2	9	3	10	11
8	1	7	3	12	1	13	12
8	1	7	4	19	1	20	11
8	1	8	0	40	0	0	0

The WEAVER'S COMPANION. 109

Camb.		Reed.		Draughts and Times.			
H.	P.	H.	P.	D.	T.	D.	T.
8	2	6	2	3	8	4	2
8	2	6	3	3	3	4	6
8	2	6	4	4	4	5	4
8	2	7	0	5	0	0	0
8	2	7	1	6	0	0	0
8	2	7	2	7	3	8	2
8	2	7	3	9	2	10	2
8	2	7	4	13	0	0	0
8	2	8	0	20	0	0	0
8	2	8	1	41	0	0	0
8	3	6	3	3	7	4	3
8	3	6	4	3	2	4	7
8	3	7	0	4	5	5	3
8	3	7	1	5	6	6	1
8	3	7	2	6	5	7	1
8	3	7	3	7	2	8	3
8	3	7	4	9	1	10	3
8	3	8	0	13	2	14	1
8	3	8	1	20	1	21	1
8	3	8	2	42	0	0	0
8	4	6	4	3	6	4	4
8	4	7	0	3	1	4	8
8	4	7	1	4	4	5	4
8	4	7	2	5	5	6	2
8	4	7	3	6	4	7	2
8	4	7	4	7	1	8	4
8	4	8	0	10	0	0	0
8	4	8	1	13	1	14	2
8	4	8	2	21	0	0	0
8	4	8	3	43	0	0	0

110 The WEAVER'S COMPANION.

Camb.		Reed.		Draughts and Times.			
H.	P.	H.	P.	D.	T.	D.	T.
9	0	7	0	3	5	4	5
9	0	7	1	4	0	0	0
9	0	7	2	4	3	5	5
9	0	7	3	5	4	6	3
9	0	7	4	6	3	7	3
9	0	8	0	8	0	0	0
9	0	8	1	10	3	11	1
9	0	8	2	14	0	0	0
9	0	8	3	21	1	22	1
9	0	8	4	44	0	0	0
9	1	7	1	3	4	4	6
9	1	7	2	4	8	5	1
9	1	7	3	4	2	5	6
9	1	7	4	5	3	6	4
9	1	8	0	6	2	7	4
9	1	8	1	8	4	9	1
9	1	8	2	10	2	11	2
9	1	8	3	14	2	15	1
9	1	8	4	22	0	0	0
9	1	9	0	45	0	0	0
9	2	7	2	3	3	4	7
9	2	7	3	4	7	5	2
9	2	7	4	4	1	5	7
9	2	8	0	5	2	6	5
9	2	8	1	6	1	7	5
9	2	8	2	8	3	9	2
9	2	8	3	10	1	11	3
9	2	8	4	14	1	15	2
9	2	9	0	22	1	23	1
9	2	9	1	46	0	0	0

The WEAVER'S COMPANION. 111

Camb.		Reed.		Draughts and Times.			
H.	P.	H.	P.	D.	T.	D.	T.
9	3	7	3	3	2	4	8
9	3	7	4	4	6	5	3
9	3	8	0	5	0	0	0
9	3	8	1	5	1	6	6
9	3	8	2	7	0	0	0
9	3	8	3	8	2	9	3
9	3	8	4	11	0	0	0
9	3	9	0	15	0	0	0
9	3	9	1	23	0	0	0
9	3	9	2	47	0	0	0
9	4	7	4	3	1	4	9
9	4	8	0	4	5	5	4
9	4	8	1	5	7	6	1
9	4	8	2	6	0	0	0
9	4	8	3	7	5	8	1
9	4	8	4	8	1	9	4
9	4	9	0	11	3	12	1
9	4	9	1	15	2	16	1
9	4	9	2	23	1	24	1
9	4	9	3	48	0	0	0
10	0	8	0	4	0	0	0
10	0	8	1	4	4	5	5
10	0	8	2	5	6	6	2
10	0	8	3	6	6	7	1
10	0	8	4	7	4	8	2
10	0	9	0	9	0	0	0
10	0	9	1	11	2	12	2
10	0	9	2	15	1	16	2
10	0	9	3	24	0	0	0
10	0	9	4	49	0	0	0

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Camb. has Reed.				Draughts and Times.			
H.T.	P.A.	H.T.	P.A.	D.A.	T.H.	D.T.	T.H.
10 ²	14	82	12	42	97	52	12
10 ²	12	82	22	42	37	52	62
10 ²	10	80	32	50	52	62	32
10 ²	10	81	42	61	52	72	22
10 ²	10	90	07	72	32	82	32
10 ²	12	92	12	92	42	102	12
10 ²	10	90	22	112	12	122	32
10 ²	10	90	32	162	02	02	02
10 ²	10	90	42	242	12	252	12
10 ²	10	100	02	502	02	02	02
10 ²	22	82	22	42	82	52	22
10 ²	22	82	32	42	22	52	72
10 ²	20	82	42	52	42	62	42
10 ²	20	90	02	62	42	72	32
10 ²	22	92	12	72	22	82	42
10 ²	20	92	22	92	32	102	22
10 ²	22	92	32	122	02	02	02
10 ²	20	92	42	162	22	172	12
10 ²	22	102	02	252	02	02	02
10 ²	20	100	12	512	02	02	02
10 ²	30	80	32	42	72	52	32
10 ²	32	82	42	42	12	52	82
10 ²	30	90	02	52	32	62	52
10 ²	32	90	12	62	32	72	42
10 ²	32	92	22	72	12	82	52
10 ²	30	90	32	90	22	102	32
10 ²	32	92	42	122	32	132	12
10 ²	32	102	02	162	12	172	22
10 ²	30	100	12	252	12	262	12
10 ²	32	102	22	522	02	02	02

The WEAVER's COMPANION. 113

Camb.		Reed.		Draughts and Times.			
H.	P.	H.	P.	D.	T.	D.	T.
10	4	8	4	4	6	5	4
10	4	9	0	5	0	0	0
10	4	9	1	5	2	6	6
10	4	9	2	6	2	7	5
10	4	9	3	8	0	0	0
10	4	9	4	9	1	10	4
10	4	10	0	12	2	13	2
10	4	10	1	17	0	0	0
10	4	10	2	26	0	0	0
10	4	10	3	53	0	0	0
11	0	9	0	4	5	5	5
11	0	9	1	5	8	6	1
11	0	9	2	5	1	6	7
11	0	9	3	6	1	7	6
11	0	9	4	8	5	9	1
11	0	10	0	10	0	0	0
11	0	10	1	12	1	13	3
11	0	10	2	17	2	18	1
11	0	10	3	26	1	27	1
11	0	10	4	54	0	0	0
11	1	9	1	4	4	5	6
11	1	9	2	5	7	6	2
11	1	9	3	6	0	0	0
11	1	9	4	7	0	0	0
11	1	10	0	8	4	9	2
11	1	10	1	10	4	11	1
11	1	10	2	13	0	0	0
11	1	10	3	17	1	18	2
11	1	10	4	27	0	0	0
11	1	11	0	55	0	0	0

114 The WEAVER'S COMPANION.

Camb.		Reed.		Draughts and Times.			
H.	P.	H.	P.	D.	T.	D.	T.
11	2	9	2	4	3	5	7
11	2	9	3	5	6	6	3
11	2	9	4	6	7	7	1
11	2	10	0	7	6	8	1
11	2	10	1	8	3	9	3
11	2	10	2	10	3	11	2
11	2	10	3	13	3	14	1
11	2	10	4	18	0	0	0
11	2	11	0	27	1	28	1
11	2	11	1	56	0	0	0
11	3	9	3	4	2	5	8
11	3	9	4	5	5	6	4
11	3	10	0	6	6	7	2
11	3	10	1	7	5	8	2
11	3	10	2	8	2	9	4
11	3	10	3	10	2	11	3
11	3	10	4	13	2	14	2
11	3	11	0	18	2	19	1
11	3	11	1	28	0	0	0
11	3	11	2	57	0	0	0
11	4	9	4	4	1	5	9
11	4	10	0	5	4	6	5
11	4	10	1	6	5	7	3
11	4	10	2	7	4	8	3
11	4	10	3	8	1	9	5
11	4	10	4	10	1	11	4
11	4	11	0	13	1	14	3
11	4	11	1	18	1	19	2
11	4	11	2	28	1	29	1
11	4	11	3	58	0	0	0

The WEAVER's COMPANION. 115

Camb.		Reed.		Draughts and Times.			
H.	P.	H.	P.	D.	T.	D.	T.
12	0	10	0	5	0	0	0
12	0	10	1	5	3	6	6
12	0	10	2	6	4	7	4
12	0	10	3	7	3	8	4
12	0	10	4	9	0	0	0
12	0	11	0	11	0	0	0
12	0	11	1	14	0	0	0
12	0	11	2	19	0	0	0
12	0	11	3	29	0	0	0
12	0	11	4	59	0	0	0
12	1	10	1	5	9	6	1
12	1	10	2	5	2	6	7
12	1	10	3	6	3	7	5
12	1	10	4	7	2	8	5
12	1	11	0	9	5	10	1
12	1	11	1	11	4	12	1
12	1	11	2	14	3	15	1
12	1	11	3	19	2	20	1
12	1	11	4	29	1	30	1
12	1	12	0	60	0	0	0
12	2	10	2	5	8	6	2
12	2	10	3	5	1	6	8
12	2	10	4	6	2	7	6
12	2	11	0	7	1	8	6
12	2	11	1	9	4	10	2
12	2	11	2	11	3	12	2
12	2	11	3	14	2	15	2
12	2	11	4	19	1	20	2
12	2	12	0	30	0	0	0
12	2	12	1	61	0	0	0

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Camb.		Reed.		Draughts and Times.			
H.	P.	H.	P.	D.	T.	D.	T.
12	3	10	3	5	7	6	3
12	3	10	4	6	0	0	0
12	3	11	0	6	1	7	7
12	3	11	1	8	0	0	0
12	3	11	2	9	3	10	3
12	3	11	3	11	2	12	3
12	3	11	4	14	1	15	3
12	3	12	0	20	0	0	0
12	3	12	1	30	1	31	1
12	3	12	2	62	0	0	0
12	4	10	4	5	6	6	4
12	4	11	0	6	8	7	1
12	4	11	1	7	0	0	0
12	4	11	2	8	6	9	1
12	4	11	3	9	2	10	4
12	4	11	4	11	1	12	4
12	4	12	0	15	0	0	0
12	4	12	1	20	2	21	1
12	4	12	2	31	0	0	0
12	4	12	3	63	0	0	0
13	0	11	0	5	5	6	5
13	0	11	1	6	7	7	2
13	0	11	2	7	7	8	1
13	0	11	3	8	5	9	2
13	0	11	4	9	1	10	5
13	0	12	0	12	0	0	0
13	0	12	1	15	3	16	1
13	0	12	2	20	1	21	2
13	0	12	3	31	1	32	1
13	0	12	4	64	0	0	0

The WEAVER'S COMPANION. 117

Camb.		Reed.		Draughts and Times.			
H.	P.	H.	P.	D.	T.	D.	T.
13	1	11	1	5	4	6	6
13	1	11	2	6	6	7	3
13	1	11	3	7	6	8	2
13	1	11	4	8	4	9	3
13	1	12	0	10	0	0	0
13	1	12	1	12	4	13	1
13	1	12	2	15	2	16	2
13	1	12	3	21	0	0	0
13	1	12	4	32	0	0	0
13	1	13	0	65	0	0	0
13	2	11	2	5	3	6	7
13	2	11	3	6	5	7	4
13	2	11	4	7	5	8	3
13	2	12	0	8	3	9	4
13	2	12	1	10	5	11	1
13	2	12	2	12	3	13	2
13	2	12	3	15	4	16	3
13	2	12	4	21	2	22	1
13	2	13	0	32	1	33	1
13	2	13	1	66	0	0	0
13	3	11	3	5	2	6	8
13	3	11	4	6	4	7	5
13	3	12	0	7	4	8	4
13	3	12	1	8	2	9	5
13	3	12	2	10	4	11	2
13	3	12	3	12	2	13	3
13	3	12	4	16	0	0	0
13	3	13	0	21	1	22	2
13	3	13	1	33	0	0	0
13	3	13	2	67	0	0	0

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Camb.		Reed.		Draughts and Times.			
H.	P.	H.	P.	D.	T.	D.	T.
13	4	11	4	5	1	6	9
13	4	12	0	6	3	7	6
13	4	12	1	7	3	8	5
13	4	12	2	8	1	9	6
13	4	12	3	10	3	11	3
13	4	12	4	12	1	13	4
13	4	13	0	16	3	17	1
13	4	13	1	22	0	0	0
13	4	13	2	33	1	34	1
13	4	13	3	68	0	0	0
14	0	12	0	6	0	0	0
14	0	12	1	6	2	7	7
14	0	12	2	7	2	8	6
14	0	12	3	9	0	0	0
14	0	12	4	10	2	11	4
14	0	13	0	13	0	0	0
14	0	13	1	16	2	17	2
14	0	13	2	22	2	23	1
14	0	13	3	34	0	0	0
14	0	13	4	69	0	0	0

END OF THE FIRST PART.

T H E

Weaver's Companion.

P A R T II.

The Art of WEAVING by the SLIDING-RULE, or a True and Exact Method of Counting by that Rule.

A DESCRIPTION of the SLIDING-RULE.

THE Sliding Rule consists of three lines of figures; two double lines and one single: the uppermost line is called the Stock, the middle one is called the Slide, and the lowest is called the Girt-line. The Stock and Slide are figured 1, 2, 3, 4, 5, 6, 7, 8, 9. Then 1, 2, 3, 4, 5, 6, 7, 8, 9, 10. The Girt-line is figured 4, 5, 6, 7, 8, 9, 10, 20, 30, 40.

The

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The numbers on the Stock and the Slide may be increased or decreased at pleasure, thus, 1 at the beginning may be called 10, 100, or 1000; then the 2 is 20, 200, or 2000; so that when 1 at the beginning is 10, then 1 in the middle is 100, and 10 at the end is 1000: but if 1 at the beginning is counted for 1, then 1 in the middle is 10, and 10 at the end is 100.

And as the figures are altered, so must the strokes or divisions between them be altered in their value, according to the number of parts into which they are divided, thus, from 1 to 2 it is divided into ten parts, and each tenth into five parts; and from 2 to 3 it is divided into ten parts; and so on until it come to 1 in the middle of the Rule, or the end of the first part. The second part is divided like the first.

The Girt-line is divided from 4 to 5 into ten parts, and so on from 5 to 10, and then from 10 to 20 it is divided into ten parts, and each tenth into four parts; and so on all the way from 20 to 40 at the end: which is right against 10 at the end of the Slide and Stock.

The Art of WEAVING by the SLIDING- RULE.

I. **T**O find how much Yarn it will take to warp any Web.

Rule. Set the number of Hundreds on the Slide to 14 on the Stock, or set the number of Warps on the Slide to 70 on the Stock, and opposite to the number of Yards on the Stock, you will find the number of Hanks on the Slide.

Example 1. How much Yarn will it take to warp 70 Yards of a Web having 900 Warp?

Set 9 on the Slide to 14 on the Stock, and opposite to 70 Yards on the Stock you will find 45 Hanks on the Slide.

Example 2. How much Yarn will it take to warp 84 Yards of a Web having 50 Warp?

Set 50 on the Slide to 70 on the Stock, and opposite to 84 Yards on the Stock you will find 60 Hanks on the Slide.

II. To find how many Yards of a Web any Quantity of Yarn will warp.

Rule. Set the number of Hundreds on the Slide to 14 on the Stock, or set the number of Warps on the Slide to 70 on the Stock, and opposite to the number of Hanks

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on

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on the Slide you will find the number of Yards on the Stock.

Example 1. If a Web is to have 1100 Warp, how many Yards will 15 Spyndles of Yarn warp?

Set 11 on the Slide to 14 on the Stock, and opposite to 60 Hanks on the Slide you will find 76 Yards on the Stock.

Example 2. If a Web is to have 45 Warp, how many Yards will 10 Spyndles of Yarn warp?

Set 45 on the Slide to 70 on the Stock, and opposite to 40 Hanks on the Slide you will find 62 Yards on the Stock.

III. To find how much Warp any Quantity of Yarn will give to any number of Yards.

Rule. Set the number of Hanks on the Slide to the number of Yards on the Stock, and opposite to 14 on the Stock you will find the number of Hundreds on the Slide or opposite to 70 on the Stock you will find the number of Warps on the Slide.

Example. How much Warp will 10 Spyndles of Yarn give to 80 Yards?

Set 40 on the Slide to 80 on the Stock, and opposite to 14 on the Stock you will find 7 Hundred on the Slide, or opposite to

70 on the Stock you will find 35 Warp on the Slide.

IV. To find when the Warp and Yards are given how much Yarn is in the Web.

Rule. Set the number of Hundreds on the Slide to 14 on the Stock, or, set the number of Warps on the Slide to 70 on the Stock, and opposite to the number of Yards on the Stock you will find the number of Hanks on the Slide.

Example 1. How much Yarn is there in 70 Yards of a Web having 800 Warp?

Set 8 on the Slide to 14 on the Stock, and opposite to 70 Yards on the Stock you will find 40 Hanks on the Slide.

Example 2. How much Yarn is there in 50 Yards of a Web having 42 Warp?

Set 42 on the Slide to 70 on the Stock, and opposite to 50 Yards on the Stock you will find 30 Hanks on the Slide.

V. To find how much Warp any number of Heers or Cuts will give to one Yard.

Rule. Set 6 the number of Heers, or 12 the number of Cuts, in one Hank, on the Slide, to 70 on the Stock, and opposite to any number of Heers, or Cuts, on the Slide you will find the number of Warp that they give on the Stock.

Q 2

Example

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Example 1. How much Warp will 3 Heers give to one Yard?

Set 6 on the Slide to 70 on the Stock, and opposite to 3 Heers on the Slide you will find 35 Warp on the Stock.

Example 2. How much Warp will 9 Cuts give to one Yard?

Set 12 on the Slide to 70 on the Stock, and opposite to 9 Cuts on the Slide you will find $52\frac{1}{2}$ Warp on the Stock.

VI. To find how many Heers, or Cuts, will give any number of Warp to one Yard.

Rule. Set 6 or 12 on the Slide to 70 on the Stock, and opposite to the number of Warp on the Stock you will find the number of Heers, or Cuts, on the Slide.

Example 1. How many Heers of Yarn will it take to give 58 Warp to one Yard?

Set 6 on the Slide to 70 on the Stock, and opposite to 58 Warp on the Stock you will find 5 Heers on the Slide.

Example 2. How many Cuts will it take to give 64 Warp to one Yard?

Set 12 on the Slide to 70 on the Stock, and opposite to 64 Warp on the Stock you will find 11 Cuts on the Slide.

VII. To find how many Yards of a Web any quantity of Yarn will warp, when there

The WEAVER'S COMPANION. 125

is a certain number of Heers, or Cuts, allowed to each Yard:

Rule. Set the number of Heers, or Cuts, allowed to each Yard on the Slide to 6 or 12 on the Stock, and opposite to the number of Hanks on the Slide you will find the number of Yards on the Stock.

Example 1. How many Yards of a Web will 15 Spyndles of Yarn warp if 4 Heers be allowed to each Yard?

Set 4 on the Slide to 6 on the Stock, and opposite to 60 Hanks on the Slide you will find 90 Yards on the Stock.

Example 2. How many Yards of a Web will 15 Spyndles of Yarn warp, if 9 Cuts be allowed to each Yard?

Set 9 on the Slide to 12 on the Stock, and opposite to 60 Hanks on the Slide you will find 80 Yards on the Stock.

VIII. To find how much Warp a Hank of any length will give.

Rule. Set 10 on the Slide to 70 on the Stock, or set 90 on the Slide to 70 on the Stock, (because one Hank ten Quarters, or ninety Inches in length gives seventy Warp) and opposite to the number of Quarters, or Inches on the Slide you will find how much Warp

Warp a Hank of that length will give on the Stock.

Example 1. If a Hank of a ten-quarter Reel give 70 Warp, how much will a Hank of an eleven-quarter Reel give?

Set 10 on the Slide to 70 on the Stock, and opposite to 11 Quarters on the Slide, you will find 77 Warp on the Stock.

Example 2. If a Hank 90 Inches in length give 70 Warp, how much will a Hank 80 Inches in length give?

Set 90 on the Slide to 70 on the Stock, and, opposite to 80 Inches on the Slide you will find 62 Warp on the Stock.

IX. To find how much Yarn of any length of a Reel it will take to warp any number of Yards.

Rule. Set the number of Warp on the Slide to the number of Warp that one Hank will give on the Stock, and opposite to the number of Yards on the Stock you will find the number of Hanks on the Slide.

Example 1. If a Web is to have 55 Warp, how many Hanks of an eleven-quarter Reel will it take to warp 70 Yards?

Set 55 on the Slide to 77 on the Stock, and opposite to 70 Yards on the Stock you will find 50 Hanks on the Slide.

Example

Example 2. If a Web is to have 52 Warp, how many Hanks of an eighty-inch Reel will it take to warp 43 Yards?

Set 52 on the Slide to 62 on the Stock, and opposite to 43 Yards on the Stock you will find 36 Hanks on the Slide.

X. To find how much Yarn is in a Pound when a Spyndle, or a Hank, is any certain Weight.

Rule. Set the Weight of the Spyndle on the Slide to 24 on the Stock, or set the Weight of the Hank on the Slide to 6 on the Stock, and opposite to 16 on the Slide you will find the number of Heers that are in a Pound-weight on the Stock.

Example 1. If a Spyndle of Yarn weigh 12 Ounces, now many Heers are there in a Pound-weight.

Set 12 on the Slide to 24 on the Stock, and opposite to 16 Ounces on the Slide you will find 32 Heers on the Stock.

Example 2. If a Hank of Yarn weigh 4 Ounces, how many Heers are there in a Pound-weight?

Set 4 on the Slide to 6 on the Stock, and opposite to 16 Ounces on the Slide you will find 24 Heers on the Stock.

XI. To find how much the Weight of
one

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one Spyndle, or one Hank is, when there are any certain number of Heers in a Pound-weight.

Rule. Set the number of Heers in a Pound-weight on the Slide to 16 on the Stock, and opposite to any number of Heers on the Slide you will find the Weight thereof on the Stock.

Example 1. If there are 32 Heers of Yarn in a Pound, how much is the Weight of a Spyndle, or 24 Heers?

Set 32 on the Slide to 16 on the Stock, and opposite to 24 Heers on the Slide you will find 12 Ounces on the Stock.

Example 2. If there are 12 Heers in a Pound, how much is the Weight of a Hank, or 6 Heers?

Set 12 on the Slide to 16 on the Stock, and opposite to 6 Heers on the Slide you will find 8 Ounces on the Stock.

XII. To find when Yarn of a certain Weight will work in one Reed, what will work in any other Reed; or what Reed Yarn of any other Weight will take, to make it in the same proportion of thickness.

Rule. Set the known Weight on the Slide to the Reed that you would know the Weight of the Yarn for on the Girt-line, and opposite
site

Set to your known Reed on the Girt-line you will find the Weight of the Yarn on the Slide; or, set the Weight that you would know the Reed for on the Slide to your known Reed on the Girt-line, and opposite to your known Weight on the Slide you will find the Reed on the Girt-line.

Example 1. If Yarn that weighs 3 Ounces each Hank work in a 1400 Reed, what Weight will work in a 900 Reed?

Set 3 on the Slide to 9 on the Girt-line, and opposite to 14 Hundred on the Slide you will find $7\frac{1}{2}$ Ounces on the Slide.

Example 2. If Yarn weigh 3 Ounces each Hank, what Reed will it take to make it in proportion to 2 Ounces in a 1600 Reed?

Set 3 on the Slide to 16 on the Girt-line, and opposite to 2 Ounces on the Slide you will find 13 Hundred on the Girt-line.

Note. If you turn the right end of the Slide to the left end of the Rule, and set the known Weight on the Slide to the known Reed on the Girt-line, then opposite to every Reed you will find its Weight, and opposite to every Weight you will find its Reed.

XIII. To find how much Warp any number of Bouts will give, run with any number

R

of

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of Runners; or how many Bouts it will take to give any number of Warp.

Rule. Set the number of Runners on the Slide to 20 on the Stock, and opposite to the number of Bouts on the Stock you will find the number of Warp on the Slide; or opposite to the number of Warp on the Slide you will find the number of Bouts on the Stock.

Example 1. How much Warp will 16 Bouts give, run with 50 Runners?

Set 50 on the Slide to 20 on the Stock, and opposite to 16 Bouts on the Stock you will find 40 Warp on the Slide.

Example 2. How many Bouts run with 70 Runners will it take to give 49 Warp?

Set 70 on the Slide to 20 on the Stock, and opposite to 49 Warp on the Slide you will find 14 Bouts on the Stock.

XIV. To find when the Warp and Runners are given, how many Bouts are in the Web.

Rule. Set the number of Runners on the Slide to 20 on the Stock, and opposite to the number of Warp on the Slide you will find the number of Bouts on the Stock.

Example 1. How many Bouts run with 56 Runners is there in a Web having 42 Warp?

Set

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Set 56 on the Slide to 20 on the Stock, and opposite to 42 Warp on the Slide you will find 15 Bouts on the Stock.

XV. To find how much of an Evener any number of Bouts will fill, run with any number of Legs.

Rule. Set the number of Pins that one Bout will fill on the Slide to one on the Stock, and opposite to any number of Bouts on the Stock you will find the number of Pins that they will fill on the Slide.

Example. If 1 Bout fill 8 Pins, how many will 10 Bouts fill?

Set 8 on the Slide to 1 on the Stock, and opposite to 10 Bouts on the Stock you will find 80 Pins on the Slide.

XVI. To find when an Evener is marked on any Breadth, what it is upon any other Breadth.

Rule. Set the given number on the Slide to the given Breadth on the Stock, and opposite to any other Breadth on the Stock you will find the number of Pins on the Slide.

Example 1. If an Evener is 7 Score upon 45 Inches, what is it upon 40 Inches?

Set 7 on the Slide to 45 on the Stock, and opposite to 40 Inches on the Stock you will find 6 Score, and 2 Pins on the Slide?

R 2

Example 1.

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Example 2. If an Evener is 20 Hundred upon 50 Inches, what is it upon 45 Inches?

Set 20 on the Slide to 50 on the Stock, and opposite to 45 Inches on the Stock you will find 18 Hundred on the Slide.

Example 3. If an Evener is 16 Hundred upon Ell, what is it upon 3 Quarters?

Set 16 on the Slide to 4 on the Stock, and opposite to 3 Quarters on the Stock you will find 12 Hundred on the Slide.

Example 4. If an Evener is 14 Hundred upon Ell, what is it upon 11 Nails?

Set 14 on the Slide to 16 on the Stock, and opposite to 11 Nails on the Stock you will find 9 Hundred and 6 Pins on the Slide.

Note, Ten Pins of an Evener make one Hundred.

XVII. To find when a Reed is marked on any Breadth, what it is upon any other Breadth.

Rule. Set the given number on the Slide to the given Breadth on the Stock, and opposite to any other Breadth on the Stock you will find the number of Splits on the Slide.

Example 1. If a Reed is 16 Hundred up on 50 Inches, what is it upon 45 Inches?

Set 16 on the Slide to 50 on the Stock, and opposite to 45 Inches on the Stock you will

will find 14 Hundred and 2 Porters on the Slide.

Example 2. If a Reed is 14 Hundred on 40 Inches, what is it upon Ell?

Set 14 on the Slide to 40 on the Stock, and opposite to 37 Inches on the Stock you will find 13 Hundred on the Slide.

Example 3. If a Reed is 8 Hundred on Ell, what is it upon 14 Nails?

Set 8 on the Slide to 16 on the Stock, and opposite to 14 Nails on the Stock you will find 7 Hundred on the Slide.

Example 4. If a Reed is 64 Porter on Ell, what is it upon 3 Quarters?

Set 64 on the Slide to 4 on the Stock, and opposite to 3 Quarters on the Stock you will find 48 Porters on the Slide.

XVIII. To find how much of a Reed any number of Warp will fill, with any number of Threads in the Split.

Rule. Set the number of Threads on the Slide to 2 on the Stock, and opposite to the number of Warp on the Slide you will find the number of Hundreds, or Porters that it will fill on the Stock.

Example 1. If a Web have 1500 Warp, how many Hundreds of a Reed will it fill with 3 Threads in each Split?

Set

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Set 3 on the Slide to 2 on the Stock, and opposite to 15 Hundred on the Slide you will find 10 Hundred on the Stock.

Example 2. If a Web have 51 Warp, how many Porters will it fill with 3 Threads in each Split?

Set 3 on the Slide to 2 on the Stock, and opposite to 51 Warp on the Slide you will find 34 Porters on the Stock.

XIX. To find how much Warp it will take to fill any number of Hundreds, or Porters, with any number of Threads in the Split.

Rule. Set the number of Threads on the Slide to 2 on the Stock, and opposite to the number of Hundreds, or Porters on the Stock you will find the number of Warp that will fill them on the Slide.

Example 1. How much Warp will it take to fill 6 Hundred of a Reed with 3 Threads in each Split?

Set 3 on the Slide to 2 on the Stock, and opposite to 6 Hundred on the Stock you will find 9 Hundred on the Slide.

Example 2. How much Warp will it take to fill 32 Porters of a Reed with 3 Threads in each Split?

Set 3 on the Slide to 2 on the Stock, and
opposite

opposite to 32 Porters on the Stock you will find 48 Warp on the Slide.

XX. To find how to set Cambs to Reeds.

Rule. Set the Hundreds of difference on the Slide to the Hundreds of the Reed on the Stock; or set the Porters of difference on the Slide to the Porters of the Reed on the Stock, and opposite to 1 on the Slide you will find the number of Draughts on the Stock.

Example 1. If a Camb be 10 Hundred, and a Reed 8 Hundred on the same Breadth, how many Draughts must be drawn between settings?

Set 2 the Hundreds of difference on the Slide to 8 on the Stock, and opposite to 1 on the Slide you will find 4 Draughts on the Stock; which shews that you must draw 4 Draughts, and set the 5th.

Example 2. If a Camb be 48 Porters, and a Reed 42 Porters on the same Breadth, how many Draughts must be drawn between settings?

Set 6 the Porters of difference on the Slide to 42 on the Stock, and opposite to 1 on the Slide you will find 7 Draughts on the Stock; which shews that you must draw 7 Draughts, and set the 8th.

Note,

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Note. If you do not find a figure on the Stock opposite to 1 on the Slide, it signifies that it is odd Draughts; but how many of them, and the Times that they must be drawn, cannot be found out by the Sliding Rule; at least I do not know how to find it out.

Now Readers courteous and kind

I must have done with you;
So for this time I am design'd
To bid you all adieu.

Example 1. If a Card be 48 Porters, and a Reed 48 Porters on the same Breadth, how many Draughts must be drawn between the Porters of the Reed and the Porters of the Card? Answer. 1. On the Slide you will find 48 Draughts on the Slide to 8 on the Stock, and opposite to 1 on the Slide you will find 4 Draughts on the Stock; which shows that you must draw 4 Draughts, and let the slide stand.

Example 2. If a Card be 48 Porters, and a Reed 48 Porters on the same Breadth, how many Draughts must be drawn between the Porters of the Reed and the Porters of the Card? Answer. 1. On the Slide you will find 48 Draughts on the Slide to 48 on the Stock, and opposite to 1 on the Slide you will find 1 Draught on the Stock; which shows that you must draw 1 Draught, and let the slide stand.



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1803 - 1804 - 1805

1806 - 1807 - 1808

1809 - 1810 - 1811

1812 - 1813 - 1814

1815 - 1816 - 1817

1818 - 1819 - 1820



To bring it out that is
any number of pounds in
the Iron Pound into ounces
in the Troy or Avoirdupois
always divide 16 by the
number of pounds in the
Pound & you will find
it will be ounces, & if you
have any remainder you
must always multiply it
by 16 & divide still by the
number of pounds & you
will find it will be grains
for example if you
say 10 pounds are in the
Iron Pound what
is the weight of one
pound in the

30) 528 (17 Ounces

30

228

210

18

16

108

18

30) 288 (9 Ounces

270

18

So you see that the
weight of an spindle
is 17 Ounces 9 Grains

How to bring Yarn that
is any number of Skeins in
the English pound into
ounce in the Troy weight you

must divide 384 by the num-
ber of Hears in the Pound. Your
quotient is ounces & if you
have any remainder it must
always be multiplied by 16
and divide by the Hears &
your quotient is Drams.
What is the weight of one
Spinal 32 Hears in the
Pound.

do you
one Spinal
32 384 12
32
64
64
0
of 32 Hears
weight 12 Drams

Suppose you have a set
of Reeds upon different
boards such as Reeds upon
40 Inches & Reeds upon Ell
the way to find out how

many Hundreds & Porters
 only forty Inch Reed is
 upon Ell. Now suppose
 a 10 Hundred upon 40
 inches what is it upon
 Ell. I'll tell you now.

$$40:16::37$$

you see

that at 16

on 40 Inch

is a 14 & 4

Porter upon

Ell. You must

learn how

that when you

must use

only forty Inch Reed

see what they are upon Ell

you will always follow the

method in stating

account & in working it.

222

37

592

40

192

160

32

5

160

160

(14 Hundred

(4 Porters

Suppose you have a quantity
of yarn 18 Hleers in the English
found what need would you
put it in for a piece of
linen, And. an 11 Hundred. & the
way to find out that is by look-
ing (in your own mind) how many
threes there are in eighteen
every three is a Hundred; & the
need is that you must add up
the number of threes that
being done it shows you
need for any sort of Yarn
in the doing of what was
posed above; you say the
threes in Eighteen 6 times
to which add five and
that makes your need
eleven Hundred.

Again Suppose you 27
Hens in the pound what rice
must it go in you say the
Hens in 27 is nine times
to which nine add five
& your rice is a 14 pound

Suppose 20 Hens in
the pound what rice must
it go in you say the Hens
in twenty is 6 times & 2 over
to which 6 add 5 & that makes
an Eleven Hundred & the 2
over is 2 pouter.

but if you want your rice
even I even you must add
only four more head of five



Red Red

A tape Red

Yellow like the body of the web

Yellow

Yellow

Plain like the body of the web

Red

A tape

Red





3 The more in the

3 The more full in the

9 The more in the

54

2

1708

4

2

212

